

SPECIAL! Report on test engines for tomorrow's cars—one rotates combustion chamber, one fires solid fuel charge!

TESTS: Hot Plymouth, Economy Olds

ACING: Proving Ground for Compacts

USTOMIZING: Make your engine sparkle!



"I 'built' my Chevy as a trailbreaker"

"That's my office there in the picture, you might say. I'm a conservation officer, and I spend most of my time patrolling my beat—four hundred square miles of wilderness, with darned few miles of road in it. Takes a real man-sized car to haul me and

my equipment around. I talked it over with a Chevrolet dealer a while back, and when he pulled out that tremendous list of options—well, here's what I'm driving now:

"A Nomad station wagon, as you can see. Four doors, six passengers, plenty of space for gear—a beauty, isn't she? Under the hood, there's that 230-horse Super Turbo-Fire V8*. Lots of pep and it hasn't faltered yet. I teamed it with the standard three-speed transmission. You just don't find a tougher pair than that, or one that's quicker to answer. I wouldn't pass up Positraction,* of course, for pulling through the gumbo that comes up around here after a rain. Heavy-duty clutch* and rear coil springs,* seat

belts* and a compass* finished this baby off fine.

"This, friend, is all car, and it won't quit no matter how hard I push it. And the best part of it is it's all mine, with all the things I want in a car."

You can do your own "building," you know, with Chevy's long-as-your-arm list of options. Sports car, family car, luxury car—you name it, you can create it. Right now, we'd suggest a trip to your Chevrolet dealer's. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

**Optional at extra cost.*

CHEVROLET



Whatever sort of car you'd like your car to be, there's a Chevy package that'll fit you like a glove. Seven perky engines . . . five transmissions . . . special cams . . . solid or hydraulic valve lifters . . . dozens of heavy-duty and comfort and convenience features . . . you've got some really pleasant choosing ahead of you!

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AMOCO



THE AMOCO GOLDEN ANNIVERSARY TROPHY—
emblematic of the World Championship in sports car racing, to be awarded to the winning driver team.

Again, Sebring picks the Unleaded Premium Gas!

For the seventh successive year, Amoco-Gas—and only Amoco-Gas—will power the cars at the 12-hour Florida International Grand Prix of Endurance, Sebring, Fla., March 26, 1960.

Why do champions choose Amoco-Gas? It's because Amoco-Gas is the *only* premium gasoline that is *unleaded*. It's the only gasoline that deliv-

ers high octane performance and *guarantees* no lead to foul spark plugs, pistons and valves. No lead means fewer pit stops... top power!

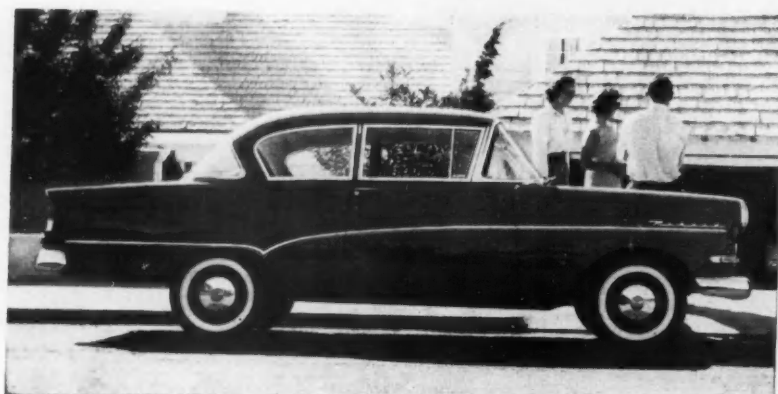
Your Amoco Dealer sells the *same* gasoline that powers the champions. Stop in soon — and give your car the super qualities found only in *unleaded* Amoco-Gas.



AMERICAN OIL COMPANY

GERMAN MADE

Germany's peppy, precision-built car, Opel is big on economy. Up to 30 miles per gallon of regular-grade gas. Takes just 3 quarts for infrequent oil changes. Costs less to operate. High resale value.



OPEL REKORD TWO-DOOR SEDAN

AMERICAN STYLE

A family of five fits fine—with plenty of head room, plenty of leg room, too. Opel's chair-height seats give the driver a better feeling of control, contoured backs are extremely comfortable.



OPEL CARAVAN STATION WAGON

THIS IS OPEL

57 horsepower 4-cyl. engine. 174 in. long, over 5 ft. wide. Smooth Synchromesh 3-speed shift. MANUFACTURER'S SUGGESTED RETAIL PRICES P.O.E. New York*—Opel Rekord 2-door sedan \$1987.50. Opel Caravan wagon \$2292.60.

*(Including heater, defroster, turn indicators, delivery, handling, Fed. excise taxes.) Transportation charges, state, local taxes, accessories and optional equipment including whitewall tires additional.

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BUICK DEALERS

COVER: Customizing need not be restricted to channeling, chopping, nosing and decking—it can be extended under the hood. With chrome accessories, this Corvette engine becomes a thing of beauty as well as power. See details on page 62. Photo by George Barris.



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Motor Trend

THE AUTOMOTIVE TESTING MAGAZINE

IN THIS ISSUE March 1960 • Vol. 12, No. 3

- 6 Letters from Our Readers
- 12 Driving Around with the Editor: Making the Falcon Fly
- 15 Glove Compartment
- 16 Detroit News and Views
- 17 Rumors
- 20 WHAT'S NEXT? Corvair's Cousins
- 22 ONE HORSEPOWER PER POUND
German research, U.S. production team up to strive for magic formula
- 28 3...2...1...FIRE!
Will principle of revolving-cylinder pistol work on automotive engines?
- 30 RACING: PROVING GROUND FOR COMPACTS
Little cars prove their stamina; racing will improve the breed
- 32 SMALL SIZE...BIG SURPRISE!
Dynamite in small packages—two "hot" VW's
- 34 PLYMOUTH ROAD TEST
- 38 GM'S NEW GEM
Taking a look at new Pontiac small car through our crystal ball
- 40 OLDSMOBILE ROAD TEST
- 44 344.7 MILES PER HOUR
Athol Graham builds powerful contender for land speed title
- 46 TALE OF A NEW COMET
Will this "compact Merc" find a place in the automotive market?
- 50 1280-HP STREET MACHINE
- 52 CLASSIC OF THE MONTH—'30 DuPont
- 54 Sell 'n' Swap
- 58 PEERLESS DRIVERREPORT
- 60 FIRST MAN IN SPACE
Sportscar race drivers serve as guinea pigs in space experiments
- 62 MAKE YOUR ENGINE SPARKLE
- 66 New Products and Ideas
- 78 More Fire for the Falcon!
- 80 Project Ideas: CUSTOM CAR CONTEST
- 84 Custom Capers

NEXT MONTH

Annual MOTOR TREND "Car of the Year" Progress Award

Road Tests—Rambler, Mercury, Dodge and Pontiac

Special Section on Karting



"LOSING DIFFERENTIALS SURE MEANS LOSING RACES..."

"I haven't lost a transmission or differential since I started using Wynn's Friction Proofing products in my car," says Rex White of Spartanburg, South Carolina.

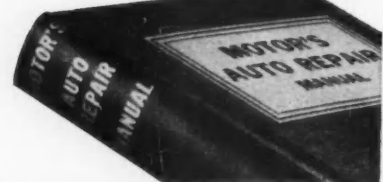
White, who finished second in national point standings for the 1959 NASCAR Short Track season says, "The Short Track Circuit is just about the toughest punishment a car can stand. All of the maneuvers that produce the greatest engine and body strain are used continually to get around the track in the quickest time. The tremendous stress placed upon transmission and differential gears has always caused me plenty of problems and expense in past years. But these troubles are all behind me now, thanks to Wynn's Friction Proofing."

Wynn's Friction Proofing was recently tested by the California Sports Car Club and their recommendation states, "Wynn's Friction Proofing tested in our cars proved greater all around performance."



Wynn's Friction Proofing products are available wherever automotive products are sold throughout the two world.
Wynn Oil Co., 1151 W. 5th St., Azusa, Calif.

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— P. Kemper, Wis.

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OF ANY CAR

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"Have been a mechanic for 25 years. Motor's Manual still takes the tight spots of the night spot."
— V. Lauria, Nev.

Letters

FROM OUR READERS

TO BE OR NOT TO BE...

Dear Sir:

The Gaylord car, pictured in your January issue, was in essence finished in design and mechanical specifications at the end of 1955... It was a tested, production prototype...

When the first model (not identical in styling) was shown in Paris, Oct. 1955, the car was pored over by enthusiasts from all over the world... These people, together with a number of officials from American and European manufacturers, expressed their many compliments, and naturally, their criticisms of our original prototype. We then altered our subsequent models, one of which you have tested...

We have not been pleased with our former production facilities... Nevertheless, we have not altogether abandoned our intent to manufacture and sell these cars. The original p.o.e. price, fully equipped,

including air conditioning, power top, etc., was \$15,000 and included a three-year guarantee...

We have had every intention to build this automobile, but would not build the Gaylord car unless we felt that its quality control could be held to a point that would do justice to its price and name. If it proves that facilities are not available to handle these requirements, we shall have to abandon the project as a commercial entity...

James K. Gaylord Gaylord Automotive Vice-President Div., Chicago

THINGS WE LIKE

Gentlemen:

In your comments on "Things we like," you neglected three which were instrumental in my purchase of a Corvair.

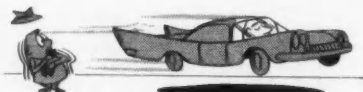
In the Midwest we experience about five
continued on page 8

DO THEY... OR DON'T THEY?

Dear Sir:

Anent the controversy regarding lift or no-lift caused by tail fins of the 1959 Chevrolet, this is a bit belated, but does establish a fact which may be of interest.

Last year I rented a brand-new Chevy sedan during my stay in Honolulu. One morning I parked it at the Pali—a pass in the hills between Honolulu and the windward side of Oahu, where the trade winds, normally low speed, funnel through at



considerably higher velocity. The car was parked headed just about into the eye of the wind.

On returning to the car I observed the rear end rising and falling, not all the time, but during the stronger prolonged gusts, which I estimated were between 25 and 35 mph. The rise was between three and four inches at the very rear end. There were about 60 to 70 cycles of rise and fall per minute.

One would assume that if a stationary car oscillated in moving air, a car moving at the same speed through still air would similarly oscillate. However, there are other factors involved. The car was empty at the time of parking, whereas under road conditions there is added the weight of the driver at least, and every pound of passenger and luggage adds to stability, making it just that much harder for the air to lift the rear end.

Richard M. Wyman Framingham, Mass.

Dear Sirs:

I would like to disagree completely with the recent letters concerning the '59 Chevrolet's tail fins, which many people believe lift the rear of the car.

I was recently offered a ride by a friend

who owns a '59 Bel Air. We traveled down Canal Blvd. until we reached a speed of 70 mph. From the feeling of sitting back and by judging the slant of the car with the curb, we could say with certainty that the car *digs in* at the rear.

Ricky A. Reso New Orleans, La.

Editors:

I can recall an instance several years ago while driving a heavy convertible at somewhat more than Sunday-school-teacher speeds on a Pennsylvania mountain highway when I abruptly found my car getting blown clear off the concrete by a powerful crosswind coming down a crossing highway cut out of a hillside. It took a bit of arm muscling to get the heavy highway cruiser to drift back away from the road edge.

Had this big car had a set of those fins, in all probability I would be writing this note somewhere up on Cloud Nine.

Ted Powell Glen Oaks, N. Y.

Editor:

Daytona Speedway, Fla., Feb. 20, 1959—Bob Wellborn won 100-mile race at an average speed of 143+ mph, driving a 1959 Chevrolet Impala!

Darlington, S.C., Speedway, Sept. 7, 1959—Jim Reed won 500-mile race at an average speed of 111.836 mph, driving a 1959 Chevrolet!

It certainly is surprising that both of these cars still had their tail fins at the end of the race.

Although I am not a Chevy owner, it is still my opinion that this car has proven itself many times and I am tired of rumors such as this.

Mack Hanbury Washington, D. C.
What started out as a joke has enlarged itself into something that is now taking on ridiculous proportions. We published some of the letters merely for their entertainment value—you should have seen some that we did not publish!

Oops and excuses—there goes a flying Chevy now!—Editor.



**"The 1960 Plymouth
is the performance king
in its field..."**

*it can drill through hard bends and switchbacks
as adroitly as many top-rated sports cars,"*

SAYS TOM McCAHILL of MECHANIX ILLUSTRATED.

One of America's best known automotive experts goes "flat out" in his praise for the Solid '60 Plymouth. Tom McCahill took a Fury 4-door hardtop equipped with the 361-cubic-inch, optional Golden Commando V-8 engine, and really put her through her paces. According to "Uncle Tom," the Commando power plant "... can whizz out 0-60 mph in 8.2 seconds."

As this expert discovered, "The big payoff on a Plymouth comes when you put it on the road." But don't take his or anybody's word for it—*you* put a Plymouth on the road. Get her out on the roughest, toughest terrain you know. See if you share Tom McCahill's and our belief that the Solid Plymouth 1960 with new Dura-Quiet Unibody "... is the performance king in its field."

A Chrysler-engineered product, built a new solid way to give you solid satisfaction.

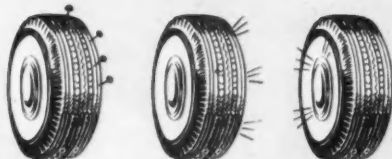
SOLID PLYMOUTH 1960

NEW SCIENTIFIC BREAKTHROUGH!

STOPS FLATS FOREVER!



DON'T LET THIS HAPPEN TO YOU!

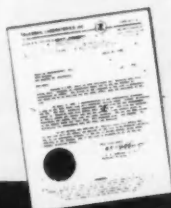


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FOR THE LIFE OF YOUR TIRE!

Acclaimed by automotive experts as "the most significant driving improvement in 33 years", Kraco TIRE SEAL gives permanent and positive protection against air loss from all normal punctures, slow leaks and rim leaks for either tubed or tubeless tires. No more annoying and dangerous delays on the highway. No more unnecessary expense caused by underinflated or flat tires which damage sidewalls and ruin casings. TIRE SEAL eliminates these hazards once and for all! That's because TIRE SEAL is composed of billions of microscopic Miracle Fibers held in suspension with a thixotropic agent. When a puncture occurs the Miracle Fiber rushes in to surround the puncturing object. When the object is removed, the air pressure and rolling movement packs TIRE SEAL into the opening and forms a permanent, leak-sealing bond with the casing. TIRE SEAL cannot gum or ball up — will not dry out — will not affect wheel balance. TIRE SEAL is easy to apply in just 3 minutes — and, it will protect the life of your tire for less than the cost of a tube!

TIRE-SEAL WINS MOTOR TREND APPROVAL IN 17,000 MILE, HIGH SPEED TORTURE TEST!

Motor Trend experts pounded a 4-inch spike deep into the tread of an average passenger car tire, deliberately ran it over a board studded with 3-inch nails, then drove the tire 17,000 miles over all types of roads, all types of weather and at speeds up to 95 MPH. Result? No air loss at any time — no wheel imbalance! Proof that TIRE-SEAL is the one way to STOP FLATS FOREVER!



Laboratory Tests Prove
TIRE-SEAL will not
affect wheel balance!

"In our opinion the addition of Kraco TIRE-SEAL to the tire will not affect the ability of the tire to be balanced initially, nor to its subsequent balance."

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1 Pint Aerosol \$2.50 ea.
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(1 pint per tire)

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California residents add 4% State Tax.

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Street Address _____

City _____ Zone _____ State _____



Letters *continued*

months of freezing weather with 80 to 100 days of frost-covered cars. This is what I like in the Corvair: 1) The gasoline heater starts immediately on removal of frost from the windshield. 2) The engine reaches operating efficiency in about two minutes, because there is no water to heat. 3) The weight distribution gives much better traction on ice and snow during these icy months. The Corvair goes up the driveway grade that my '59 Olds cannot make when icy.

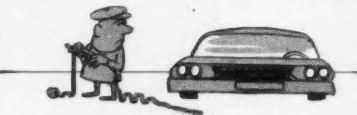
H. Honrath

Columbus, Ohio

CLEARANCE LIGHTS YET!

Editor:

I read that the Tennessee State Attorney recently ruled that the requirement that vehicles over 80 inches wide must have red



and amber clearance lights is not limited to trucks. In the near-future Tennessee owners of some 1960 models (including Ford and Chevy) will face \$50 fines if they don't have clearance lights.

Although I think this State Attorney's action is asinine, I hope the auto industry learns from this that their cars are overgrown.

Lester Hemphill

Chicago

WHICH IS BETTER BUY?

Gentlemen:

After reading your article, "Compacts Cross-Country" (Jan. MT) I wonder how you arrive at the conclusion, "We have to nod in favor of the Corvair." From the data you have compiled, operating costs alone would rule out the Corvair as an economy car.

It would seem that with greater economy, lowest initial cost and from your observations, better fit and workmanship, Falcon would rate as the better buy.

Edward F. Loskot

Greenacres, Wash.

SAFE DRIVER PLAN

Gentlemen:

In regard to your article on insurance (Dec. MT) I would like to say that I am heartily in favor of the "Safe Driver" plans mentioned, whereby people with unblemished records are given a discount, while poor drivers are forced off the road.

Under this plan, the highways will become much safer simply because of the lack of bad drivers. All drivers will become more careful, for high insurance rates hit drivers where it hurts the most—right in the pocketbook. Best of all, it will give the highly controversial teen-age driver a real chance to prove whether he is able to drive safely.

How can we lose?

Chuck Fisk

Golden, Colo.

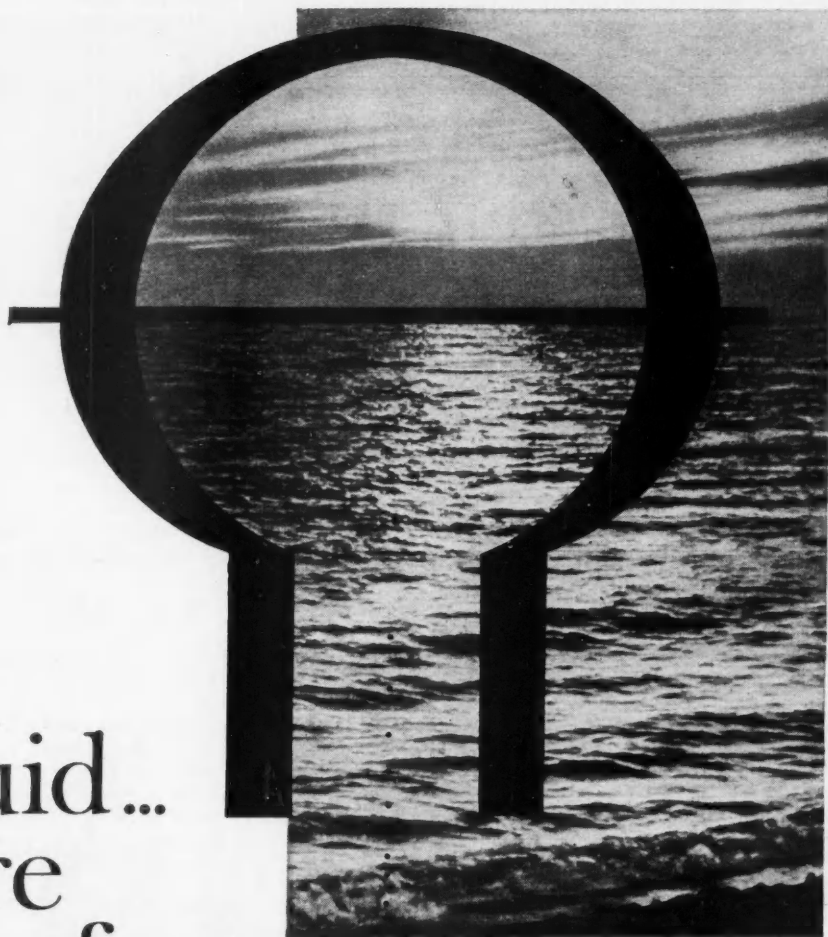
Gentlemen:

I was about to buy a car when I found out that the insurance rates would far exceed the cost of the car, and that put a damper on the project for quite some time.

I'm 18, have two years on the road, took drivers' education and have an unblemished

continued on page 10

Air + Liquid... Sphere of Comfort



Air and Liquid give the Citroën its extraordinary flexibility. Each of the four independently suspended wheels is connected to the body by a Piston. By means of a liaison liquid, this piston more or less compresses a neutral gas (Air) pressurized in a sphere.

The weightlessness of the sky, the restfulness of a tranquil sea, a feeling of floating along on a cushion of clouds...this is the Citroën ride...the *Air-Oil Suspension* ride...the *supremely comfortable ride, exclusively Citroën*.

Experts predict: "Eventually *all cars* will come to Air-Oil Suspension." Today only Citroën has it, a "springless" suspension with tenfold the flexible strength of conventional suspensions... a system that instinctively adjusts itself to any surface change... holding the body of the car at constant level, whatever the road, whatever the load.



No other riding comfort can begin to compare with Citroën's. The difference is there as soon as you step inside.

Every Citroën owner knows what we mean. Any Citroën dealer is eager to have you experience it too... the most comfortable ride since man invented the wheel: *Citroën, with Air-Oil Suspension*.

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Sold and Serviced by Factory trained Citroën Dealers throughout the United States and Canada. Write for Free Road Tests Reports and Overseas Delivery Booklet, or visit the Citroën dealer nearest you.

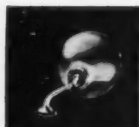


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*Makes a handy,
attractive reference
that lasts a lifetime.
Only \$2.25.*



◀ *mail this coupon today!*

Letters *continued*

driving record—not even one citation—and my insurance rates for \$50 deductible would be over \$200—about the same as a driver with many convictions.

We need a nationwide campaign to open the eyes of the insurance companies and state legislatures.

Butch George

Pontiac, Mich.

Dear Sir:

We have recently developed a plan, approved by the Michigan Insurance Commissioner, which, in our opinion, is a long stride toward the correction of the Under-25 Male Driver situation. Under our Merit Rating System, the young driver is given a 10 per cent credit if he has two years of claim-free driving.

Traffic violations are not considered in the plan. We believe that traffic violations do, in a fashion, measure driving ability, but that this is not always 100 per cent true and that obtaining the data may complicate the administration of the plan.

Under our plan, our experience data is in our own files. For each accident-free year, an additional 10 per cent annual discount is given the young driver until he reaches adult rates. In event of a claim, a 20 per cent debit is charged.

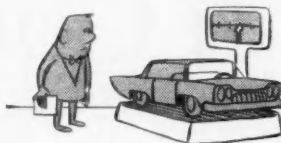
We believe the plan is sound and it is our hope that, in the near future, it can be expanded to additional states, giving a larger group of good teen-age drivers the opportunity to make substantial savings on their insurance costs.

K. L. Wright Michigan Mut. Liab. Co.
Vice-President Detroit, Mich.

NOT SOLD BY THE POUND

Dear Sir:

You commented on the relatively high price of the new compacts, and pointed out



(correctly, I believe) that "... the production line worker who puts the smaller cars together makes basically the same per hour as the man who works on big cars."

Your statement, while no doubt true, raises a question: If it costs \$200 more to make a 3800-pound Chevy than a 2400-pound Corvair, why does a Buick cost \$1000 more than the Chevy? The Buick's price tag would imply that it should weigh more than five tons, when actually, of course, its weight differential over the Chevy is a mere 300-400 pounds.

Why izzat?

Jack Springman

Levittown, Pa.

RIGHT-HAND STEERING?

Dear Sir:

While reading your fine articles on your 2500-mile tests of the Corvair, Falcon and Valiant I noticed something rather unusual in the photograph of the Corvair on page 26. Am I seeing things, or does that Corvair have a right-hand steering wheel?

T/Sgt. W. T. Morrison Lowry AFB, Colo.
—No. The shot was taken of the Corvair's reflection in the rear view mirror of the Falcon being tested.—Ed.



*The Finest Fords of a Lifetime
bring you the Thunderbird's own*

The Finest Fords of a Lifetime include the dazzling new Starliner (foreground) and the Thunderbird, America's most wanted car.

SPIRITED PERFORMANCE

The 1960 Fords are the cars you've always hoped would happen. They ride like the Thunderbird, corner like the Thunderbird, move like the Thunderbird—at low Ford prices. This is possible because each Ford has a new Wide-Tread Design that provides a 5-foot tread like the Thunderbird. They have new rear suspension with special leaf springs that are a full 5-feet long. And they have new anti-

dive and anti-squat control. With this levelized suspension, bumps are damped out before they reach you. You enjoy a luxuriously comfortable ride . . . a new sports-car kind of handling on any road.

For power, you can have one of the Thunderbird's own great engines in any 1960 Ford you choose. The Thunderbird 292 V-8 and 352 V-8, like the famous Mileage Maker Six, give

superior performance on regular fuel. For exceptional performance choose the new 300-hp Thunderbird 352 Special V-8 with 4-barrel carburetion . . . or the mighty 360-hp Thunderbird 352 Super V-8.

Try one of these Finest Fords of a Lifetime for a new driving experience. Discover just how sure and smooth a car can move.

FORD DIVISION, *Ford Motor Company*

A WONDERFUL NEW WORLD OF '60 **FORDS**

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In living color Tuesdays on NBC-TV



FORD—
The Finest Fords of a Lifetime



FALCON—
The New-size Ford



THUNDERBIRD—
The World's Most Wanted Car

MAKING THE FALCON FLY!



Driving Around WITH THE EDITOR

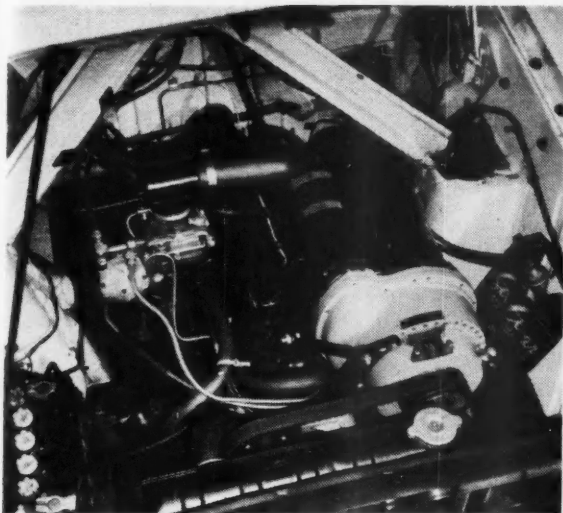
ON THE WAY TO A 76-MPH AND 18.3-SEC. QUARTER-MILE, THE BLOWN FALCON LEAVES TWO STRIPS OF RUBBER ON THE DRAGSTRIP.

NO MATTER HOW MUCH WE HAVE, we all seem to want more. Take the case of the Ford Falcon, for example. Here's a car that was designed as a compact, economy car. Yet, one of the first things that car owners, enthusiasts and builders have done is to modify it for more go.

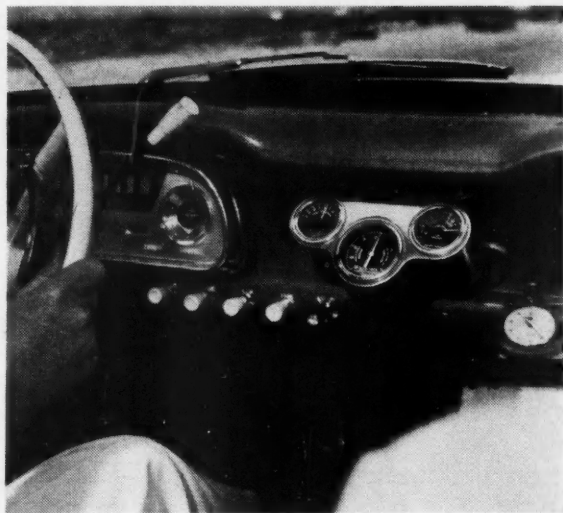
One builder we know of has modified the intake manifold and is working on a higher lift camshaft. An owner who likes the car's size, but is disappointed in the performance, has ripped out the 90-hp six and has stuffed in a monstrous Ford V8! It does over 90 mph in a standing quarter with an elapsed time of

around 16 secs., while the stock Falcon does 62 mph in 22.8 secs. (Jan. '60 MT). Even Ford is now offering a power kit (see page 78). And it was only natural that someone would adapt a supercharger to one.

That someone is the Paxton Products Co. of Santa Monica, Calif., where the three Granatelli brothers manufacture and distribute superchargers for almost every car you can name. (One, a Volvo, we tested and reported on in our May '59 issue.) They've been around long enough to know that blowers can be a quick, effective and fairly economical way to boost horsepower.



Installation of blower under hood of Falcon does not affect engine accessibility since air cleaner is easily removed. Blower is shorter than standard, and is made especially for small cars.



Three-instrument cluster on dash indicates positive pressure at blower, manifold pressure (or vacuum) and fuel pressure. Tachometer (not visible here) is also advisable with blower.

In the case of the Falcon, the added performance is well worth the sacrifice of a few miles less per gallon from an already economical car.

This new blower (designated SN-60) is a shorter, more compact blower than the DO-59. It has no variable speed, has its own oil reservoir and is made specifically for small engines. Blower pressure begins to build up almost immediately, going on up as you rev the engine until at 5700 rpm, you're getting 10 pounds of boost. The tighter you rev it, the more boost you get: for example, at 3000 rpm you're indicating only 3.5 to 4 lbs. of boost, yet in 2700 more rpm it's hitting 10.

In all traffic conditions, the blown Falcon has lots of snap and though you're always using blower pressure, the telltale whine doesn't become noticeable until you're over 3000 rpm. You'd not only fool lots of people who think you have a stock Falcon (including owners of "big brother" Fords), but you could probably win a few trophies at the drags, too.

It cruises real well around 60 to 70, with more speed still on tap, right on up to its top of over 100 mph. If you have cause to go skiing, or live in high altitudes, you could buzz right on up to over 7900 feet (as we did) with no falling off of power (the way the stock Falcon does).

The blower makes a neat installation under the hood, with the only change now needed being a longer oil dipstick. (It's coming.) The air cleaner hides the two front spark plugs and the distributor but it's actually easier to remove than a standard cleaner: all you do is unscrew one clamp and lift the cleaner out of the way to clear.

Normally, the blower by itself sells for \$199.50. On top of this you add the \$200 cost of the kit (hoses, cleaner, carb jets, pulleys, modification kits for fuel pump and carburetors, etc.) and you have a price of \$399.50. Andy Granatelli says he's going to make the whole thing available for \$199.50! Of course, he'll have to have the volume of business to justify it and, if he doesn't get it, he'll have to go back up to the old price. If you install it yourself, you'll save another \$65 or so, but you should have at least one of the three gauges (at \$15 each) that come with the blower. They come singly, or in clusters of two or three.

When you can get the kind of performance that we got with this Paxton blower, with no other changes to the car except for a straight-through muffler, how can you go wrong? And how else can you get so much for so little?

Paul Newman



STOCK FALCON

Acceleration

0-45 mph 12.2 secs. 0-60 21.0
Quarter-mile 22.8 secs. 62.0 mph
30-50 9.0 45-60 8.8 50-80 29.8

Maximum Speed 85 mph

Gas Mileage

City driving 23.4 mpg
Highway, mountain driving 24.1

BLOWN FALCON

Acceleration

0-45 mph 7.2 secs. 0-60 12.6
Quarter-mile 18.3 secs. 76.0 mph
30-50 4.1 45-60 5.4 50-80 12.2

Maximum Speed 100+ mph

Gas Mileage

City driving 21.3 mpg
Highway, mountain driving 21.2

MORE FUN . . . BECAUSE YOU MOTOR WITH GREATER CONFIDENCE

Drivers and passengers in Mercedes-Benz cars enjoy a level of confidence rarely engendered by other vehicles. This freedom to enjoy the pleasures of motoring is a direct function of significant advances in the design and construction of chassis, brakes, steering...the entire automobile. And, of course, since control is more precise, driving is more fun. It works both ways!

MERCEDES-BENZ



Mercedes-Benz Sales, Inc. (A Subsidiary of Studebaker-Packard Corporation). Sedans, convertibles, sports cars . . . prices range from about \$3,300 to \$13,000.



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Glove COMPARTMENT

BMW AND NSU PRICES (p.o.e.) have been announced by importer Fadex Commercial Corp.: BMW 700 coupe, \$1898; sedan, \$1648. NSU Prinz, \$1398 (East Coast); \$1495 (West Coast). NSU Prinz with 36-hp engine, \$1498 (East Coast), \$1555 (West Coast). NSU Sport Prinz, \$2200.

NEW PLASTIC RELIEF MAPS of the U.S. and the world now offer motorists a three-dimensional view of their journey route. Maps show cities, highway numbers, rivers, mountain ranges and peaks, national parks and monuments—printed in color with mahogany-colored plastic frames, ready to hang. Priced at \$9.95 for 18x28-in. size (\$47.50 for 40x64-inch size), the attractive study-aids-to-travel are available in retail stores or from publisher: Aero Service Corp., 210 E. Courtland St., Philadelphia 20, Pa.

ANTI-TRUST CHARGES have been filed by the Justice Dept. against Renault, Inc., Peugeot, Inc. and 16 distributors. The suit said that the defendants represented a monopoly acting in restraint of trade through manufacturer-distributor control of prices and territory allocations. In statements denying the charges, the manufacturers claimed that vigorous marketing "had stirred up some of the liveliest competition in automotive history" and had broadened "the range of models and makes of cars available to the American market."

THE BEETLE IS A BOMB when it comes to popularity. VW's 1959 production was 704,935 units—which places them considerably above the third-largest U.S. producer (Rambler—401,446). Of VW's output, world exports totaled 406,813 vehicles—or more than Rambler's entire production during the same period. (For comparative figures of '59 output of U.S. makers, see page 18.)

TWO FOR YOUR BOOKSHELF—Floyd Clymer's latest annual *Indianapolis 500-Mile Race Yearbook* (\$2) is an exciting chronicle of the 1959 running. The 136-page book's numerous photos of cars, action and personalities—plus detailed coverage of preparation, qualification and the big event itself—will recreate it for those who weren't lucky enough to attend.

If small cars are a big decision for you, you can find some help in Consumer Union's new \$1 paperback *A Small Car in Your Family*. A total of 66 U.S. and import models are discussed and rated in terms of size, performance and economy. A compact guide to the compacts.

—Erv Rosen

For miles of smiles...

GLIDE CONTROL^{*}

stops tiring, gas-wasting "PEDAL PALPITATION"

Send coupon now for data on how any driver... any car... can now get greater gas saving and driving ease than ever before!

NOW, GLIDE CONTROL lets you achieve automatically with any car, exactly what professional "economy run" drivers are famous for—record-breaking fuel savings through precise, even throttle control and fuel-feed.

GLIDE CONTROL is a perfected, precision-made electronic instrument, proven efficient and fool-proof in rigid performance tests by leading engineers. It increases gas mileage up to 25%—pays you back its full cost within a few months!

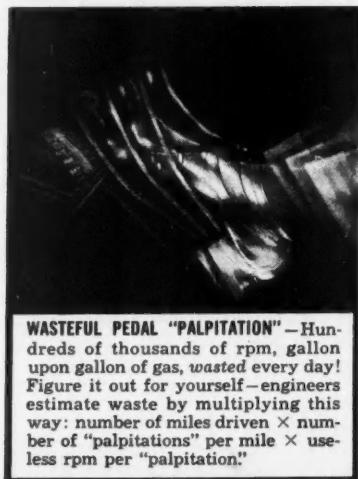
SAFE TOE-TIP CONTROL

Driving with GLIDE CONTROL is as simple as dimming your headlights. You accelerate to any desired speed, then "cut in" GLIDE CONTROL with your left toe. Once speed is set, your right foot is free, relaxed. No "throttle-foot" fatigue! You can increase acceleration with your foot to pass a car

ELIMINATES FREEZING WEATHER ENGINE STARTS

On cold winter mornings set your GLIDE CONTROL to warm your engine while you have your second cup of coffee. Warm engine means longer life—less repair. GLIDE CONTROL pays for itself in a few months in gas savings alone. Available at your automobile dealer, garage, or service station.

^{*}Trade Mark



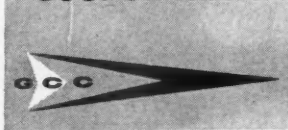
WASTEFUL PEDAL "PALPITATION"—Hundreds of thousands of rpm, gallon upon gallon of gas, wasted every day! Figure it out for yourself—engineers estimate waste by multiplying this way: number of miles driven × number of "palpitations" per mile × useless rpm per "palpitation."

and then pre-set speed resumes. GLIDE CONTROL "cuts out" the instant your toe touches the floor button again or you apply your brakes.



Awarded MOTOR TREND Seal of APPROVAL

CLIP AND MAIL
COUPON NOW!



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Please rush full details on GLIDE CONTROL performance.

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State _____

I am a: (check one)

☐ Distributor

☐ Retailer

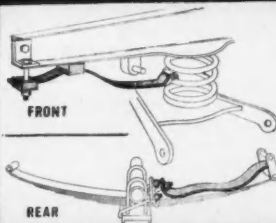
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For Safer, Smoother Driving

HELLWIG ADJUSTABLE HELPERS

eliminate the rough ride from worn shocks and sagging springs—give new stability to all cars—increase carrying capacity. Easily installed.

Passenger cars—pickups



Ask your dealer about the new HELLWIG '60 models—or write direct to factory.

Distributors: Write for full information on this great profit line.

HELLWIG PRODUCTS CO., INC. 6231 San Fernando Rd., Glendale 1, Calif.

Detroit

NEWS AND VIEWS

by Bill Callahan
Detroit Editor

THE TREND TOWARD smaller and lighter cars has revived interest in Detroit as to what aircraft practices can be applied to cars of the future. The latest is an electro-hydraulic system (see drawing below) that engineers at Electric Autolite Co. say can handle all the chores now handled by several systems: vacuum, electric, hydraulic.

The system (under development for the past six years) is a "closed-center" type used in aircraft. Hydraulic pressure is built up in a grapefruit-sized accumulator, which stores pressure even when the hydraulic pump is not in operation for long periods of time. This pressure

is put to work through several cylinders and control valves, operating such things as wipers, horns, shocks, brakes, window lifts, steering, etc.

Biggest problem in making such a system work effectively is cleanliness and elimination of leaks. Autolite solved this with a series of filters which insure cleanliness; they have designed pumps, valves and tubing that are virtually "leakproof."

How quickly the industry will accept this type of central control remains to be seen, but one supplier claims that one of the Big Three is making inquiries. There is no question that the current trend to more compact cars, in which

space and weight assume even greater importance, has accelerated thinking along these lines.

ELECTRIC CARS with self-contained power sources could make their appearance during the next 5-10 years. Not such a wild statement when you consider experiments now in progress at the Allis-Chalmers Tractor Co. in Milwaukee, Wis. There they have proved the feasibility of using a fuel cell to develop current sufficient to provide a 3000-lb. draw-bar pull with a farm tractor using a 20-hp electric motor (see photo at left).

The fuel cell, essentially consisting of electrodes and electrolyte, differs from a battery in that it creates its own current. In the Allis-Chalmers unit the gases (largely propane mixed with oxygen) are fed into the cells through tubes, where they react to develop direct current. This is then fed into an external circuit.

Dr. H. K. Ihrig, v.p. and Director of Research at Allis-Chalmers, says, "There is no reason why the fuel cell method of generating current cannot be used to power any type of vehicle." The immediate problems are bulk and weight, since the A-C unit is much heavier than a gasoline engine and does not provide equal performance.

Fuel-cell electric cars may not be right around the corner, but we know that American Motors still has considerable interest in this development. Others, perhaps, are also looking into it.

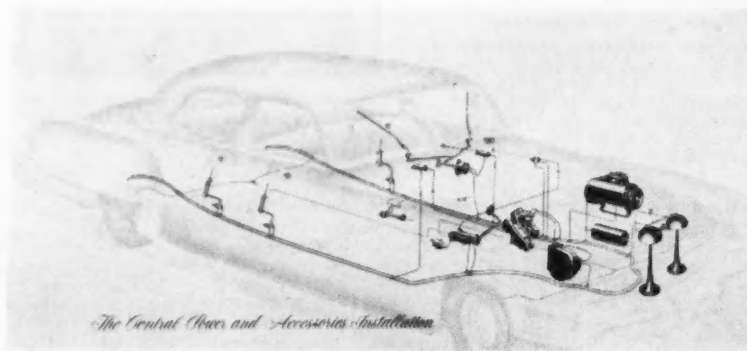
LIKE MOST NEW MODELS the three new compacts have revealed few bugs in owners' hands that did not show up in company testing. Corrective measures already have been taken, so early buyers will be interested in these modifications.

In extremely cold weather the Corvair suffered from ice forming on the carburetor butterfly valves. Now, a jet of warm air is directed to the carburetor; the kit is available at your dealer.

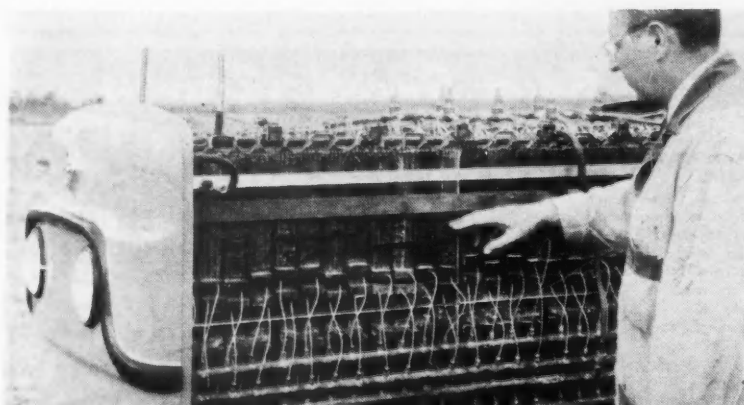
Some trouble has also been experienced with fans jumping the pulleys. Chevy now offers a wider, deeper-grooved pulley and a longer belt that provides for better adjustment.

Other Corvair changes: a modified hand brake (no longer "two-stroke"), better insulation at the lower end of the engine compartment, revised carburetors and other changes that result in better mileage and the folding rear seat which is no longer "extra-cost."

continued on page 18



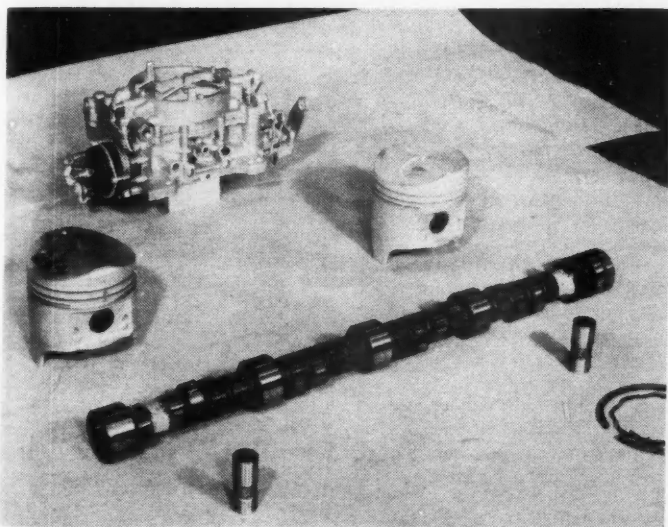
The Central Power and Accessories Installation
Automotive electro-hydraulic system developed by Electric Autolite Co. replaces conventional vacuum, electric and hydraulic systems. Hydraulic pressure is stored in small accumulator, works through cylinders and valves to operate car's accessories.



Experimental fuel cell developed by Allis-Chalmers consists of electrodes and electrolyte with gas from propane and oxygen creating current for the 20-hp motor.



Ford's Falcon station wagon, new entry into compact car class, is available in 2- or 4-door model with same 90-hp engine as sedans. Falcon wagon has longest cargo space and greatest load floor area in its class, as well as the lowest tailgate floor-loading height in the auto industry.



Chevrolet offers two versions of its 348-cu.-in. high-performance engine for 1960. First develops 320 hp at 5600 rpm, has 11.25:1 compression. Hottest gets 335 hp at 5800, uses larger valves and bigger exhaust headers. Both engines are used with 3-speed manual transmission. Illustrated components running diagonally across center of photo are special carburetor, special piston, high-lift camshaft, mechanical valve lifter, cast-iron oil ring and expander. Piston and hydraulic valve lifter on extreme left-hand side of the photo are used with stock production engines.

Rumors

"One of the Big Three is planning to produce a small car comparable in size to the Volkswagen."

POSSIBLE—There is a persistent rumor that Ford is developing such a car, probably not as small as Der Volks, with an aluminum four-cylinder engine in front, using front-wheel drive. Chances are it's a long way in the future.

"Lincoln Continental will offer a four-door convertible with an automatic top and hard glass rear window early this year, or in its 1961 line."

FALSE—Continental uses unitized body construction, which does not lend itself too well to convertible designs. Even in frame-and-body construction, convertible frames usually have added crossmember for increased rigidity.

"A new small car, smaller than a VW, is being readied for production in Detroit."

TRUE AND FALSE—There is such a car. It has been styled. A clay model has been built, but the car will be produced elsewhere. It's a 93-in.-wheelbase job, using a four-cyl. engine and a fiberglass body that will seat two in front with a jump seat in the rear. You'll hear more about it exclusively in **MOTOR TREND** in a coming issue.

"Buick's engine for the new B-O-P compact car will be all aluminum."

TRUE—This new V8 will have an aluminum block and heads, using steel liners in the cylinders. Bore and stroke will be 3.5 x 2.8 ins., giving it a 215-cu.-in. displacement. Horsepower is estimated at over 150.

"Ford is planning a small V8 engine for use in its new Comet line."

POSSIBLE—But not yet confirmed. It seems likely that GM progress with their aluminum V8 for their upcoming compacts will spur developments, or announcements, along this line.

"Dodge Division of Chrysler Corp. will introduce a smaller car than the Dart this spring, reputedly to be called the Waup, Warrior or Lancer."

POSSIBLE—M. C. Patterson, Dodge general manager, in a year-end letter to dealers has denied this report and stated that "if and when" Dodge management was convinced of the need for such a car it would be produced. Of course, that "if and when" could come at almost any time.

**GAGS! GIGGLES!
GOODIES! GASSERS!
GUFFAWS! in**



Here's a book that's strictly for laughs — packed with humorous stories and cartoons about automobiles. It's the joint product of Carl Kohler and Pete Millar, two zany young humorists who are equally at home at the typewriter or drawing board. Some of the headings offer an idea of what to expect:

- THE SAGA OF RUMP-RUMPTOWN
- THE WILD EVOLUTION OF THE WHEEL
- THE PHANTOM OF THE FLATS
- THE McBLAST STORY

Lots more, too, where those came from—in **CAR TOONS**—the funniest book of the year!

ONLY 25c

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Enclosed is \$_____, @ 35¢ each
for which send me _____ copies of
CAR TOONS by Millar and Kohler (in-
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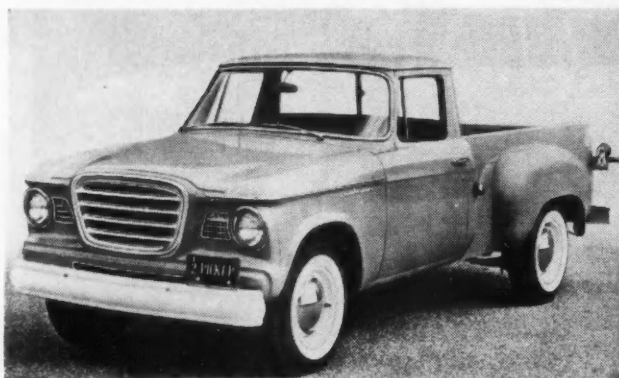
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Studebaker's "new idea" truck for 1960 is called *Champ*, bears strong family resemblance to *Lark* (as MT artist predicted in February issue). *Champ* features low silhouette, 2-piece sliding rear window.

Detroit News

continued

Owners of Falcons in hilly country complained that they had trouble maintaining speed in high gear. Others disliked the bucking in high gear at low speeds. With the Falcon engine's relatively short stroke it is necessary to rev it high to get real torque. Ford now offers a 3.56:1 rear axle; it increases performance, but naturally will cut economy.

Chief complaints on Valiants have centered around assembly and production faults. Chrysler tells us they are tightening their grip on this and so we suggest that early buyers lean on their dealer's service department for corrective action.

One new item for Valiant is a power brake unit. It can be bought from a Valiant dealer or MoPar Parts wholesaler, complete with step-by-step instructions under Part No. 2075-007. The booster installs on the left side of the firewall, does not interfere with engine accessibility and the master cylinder connects to the booster. The whole job takes but one hour.

HOTTER COMPACTS seem to be the order of the day here in Detroit. Corvair will have a power option (see page 20), Falcon has a "factory" kit, along with at least two other conversions that could become "factory" kits (see page 78) and the Valiant also can be had with a hop-up kit.

The Valiant kit consists of a new intake manifold with one four-barrel carb, a special cam, dual valve springs and a special split exhaust header with two pipes instead of one. Compression is up to 10.5:1. This boosts power from the somewhat modest 101 to a hot 148!

LOOKING INTO THE FUTURE, the GM Research Labs have developed a warning buzzer to notify motorists when their cars are too close to the pavement edge. Wires are buried in the road and create an electrical "fence" that is picked up by coils in the car. Impulses are boosted by an amplifier, sounding the buzzer.

THE SALES/PRODUCTION BOX SCORE

Make	Sales in '59 (10 months)	Production (All of '59)
Chevy	1,285,926	1,428,980
Ford	1,242,159	1,528,592
Pontiac	344,548	388,856
Plymouth	334,072	393,213
Olds	324,228	366,305
Rambler	307,042	401,446
Buick	215,275	232,579
Mercury	132,103	156,765
Dodge	130,091	192,798
Cadillac	121,947	138,527
Studebaker	111,922	153,830
Chrysler	54,016	69,411
DeSoto	38,017	41,423
Edsel	37,110	29,677
Lincoln	23,018	30,375
Imperial	15,126	20,963
Falcon	_____	100,757
Corvair	_____	79,418
Valiant	_____	19,991

ONLY CUSTOMIZING THIS SIXTY PONTIAC NEEDS IS A SET OF LICENSE PLATES

One of the shrewdest customizing jobs of the year was done right on the dies where this Pontiac was made. They stamped this classic sixty with a look of distinction that'll go the distance with true car lovers.

The outside is only half the story. Inside they've outfitted the Pontiac (from Catalina through Bonneville) with interiors that'll have you looking for excuses for keeping the top down or the door open.

Underneath it all is the finest piece of passenger

car machinery in the field. Not a car on the road can match its wide track . . . Pontiac's exclusive wheel design that gets the most good out of gravity. And it's been improved this year with new suspension especially keyed to this wider stance.

Take your pick of new Tempest power plants . . . most envied V-8's in the industry. Match it with the gear box and axle ratio of your choice. Do this and you've *got* it—the most respected car among those who know cars best.

PONTIAC THE ONLY CAR WITH WIDE-TRACK WHEELS

PONTIAC MOTOR DIVISION • GENERAL MOTORS CORPORATION



What's Next?

CORVAIR'S COUSINS

NOW THAT CHEVROLET has announced their new "Monza" special Corvair coupe, conjecture is rife about the possibility of a "fastback" coupe coming next. Using the 95-hp engine and four-speed gearbox package, along with an interior that sports bucket seats (bottom photo), it seems likely that an all-out GT version of the Corvair (below) could be developed.

Principal differences between the current car and the conjectural one are in the sloping rear, the spare moved inside and the use of wire wheels. And neither is more power out of the question.

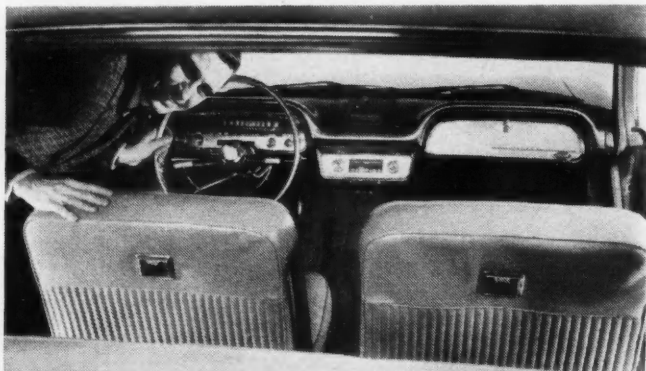
The power package uses a special cam



that allows more lift and keeps the valves open longer, uses larger muffler passages and a larger tailpipe. (The factory doesn't say, but we assume compression ratio to be higher, too.) These changes take the horsepower from 80 to 95. Used with this is a new four-speed gearbox that is synchro in all gears.

Also used is a heavy-duty chassis package that includes stiffer springs and shocks, rear suspension rebound straps, a front suspension stabilizer bar and sintered iron-metallic brake facings.

This optional power and heavy-duty chassis package will be available in limited quantity on both the four-door sedan and the coupe.





ROAD & TRACK Magazine says...

"CLEARLY THE BEST DESIGNED" OF ALL THE CARS IN ITS CLASS.

NSU Prinz is the only economy car whose aluminum air-cooled rear engine has overhead cams—normally reserved for high-priced cars. Result: Fewer moving parts...performance as trouble-free as any in the world. Other NSU Prinz exclusives: **Record-setting endurance**—At Lime Rock, Connecticut, the NSU Prinz with a 36 hp engine,* outperformed cars twice its size and three times its cost. **50/50 weight balance**...eliminates rocking, leaning, rough starting—assures four passengers a sublimely steady ride. **Only two lubrication points in the entire car**...makes servicing quicker, less costly. **Award-winning economy** — at the recent Sebring auto races, NSU Prinz 30 delivered the most miles per gallon of any imported or domestic car! Enjoy a sliding sunroof, pivoted rear windows at very little extra cost.

THE WUNDER-BUY

NSU PRINZ



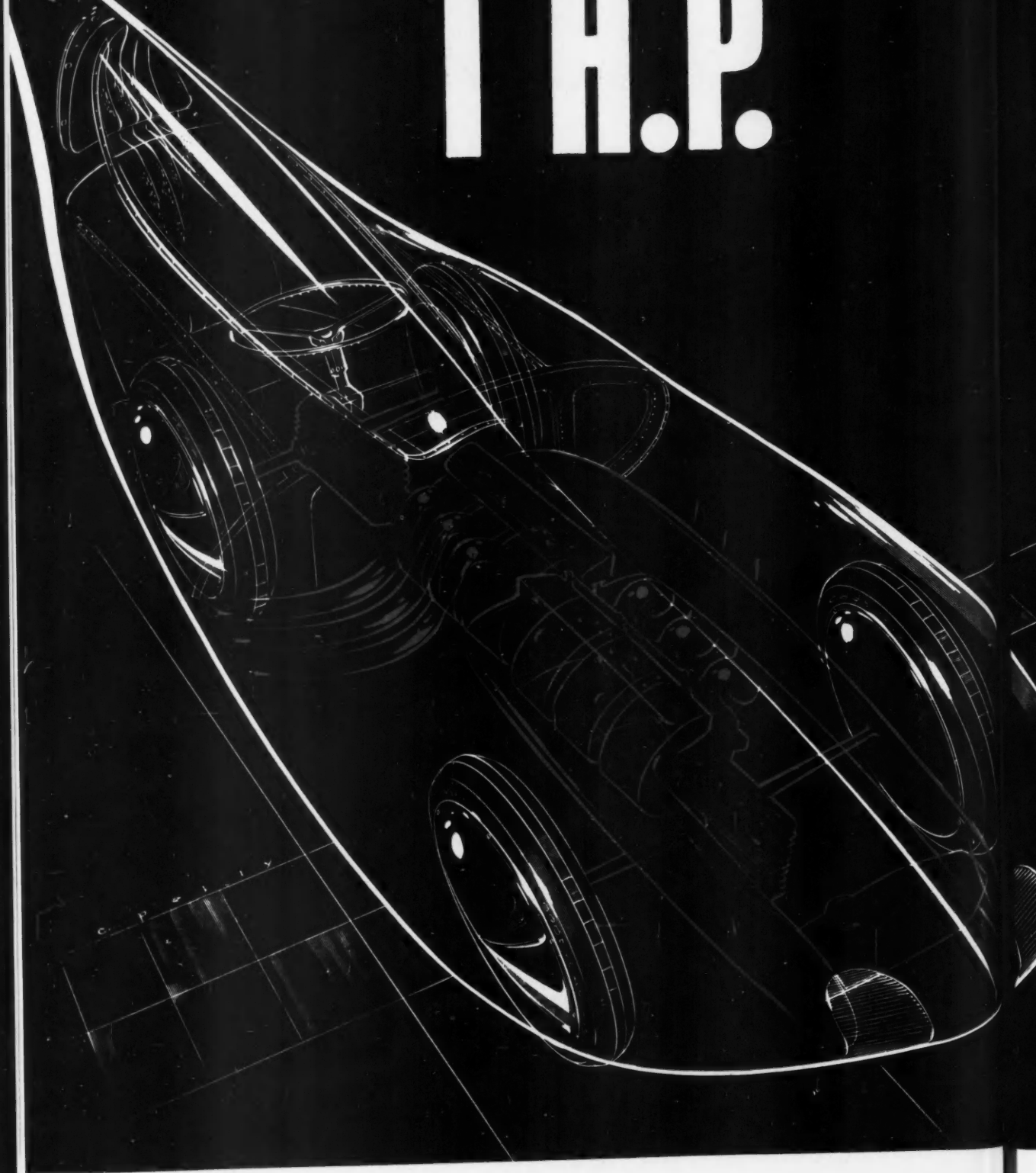
ONLY \$1398[†]

MADE BY NSU WERKE IN WEST GERMANY • U. S. IMPORTER: FADEX COMMERCIAL CORP., 487 PARK AVENUE, NEW YORK 22, NEW YORK

*36 HP ENGINE AT EXTRA COST †P.O.E. N.Y., HIGHER WEST COAST

MOTOR TREND/MARCH 1960 21

1 H.P.



per POUND

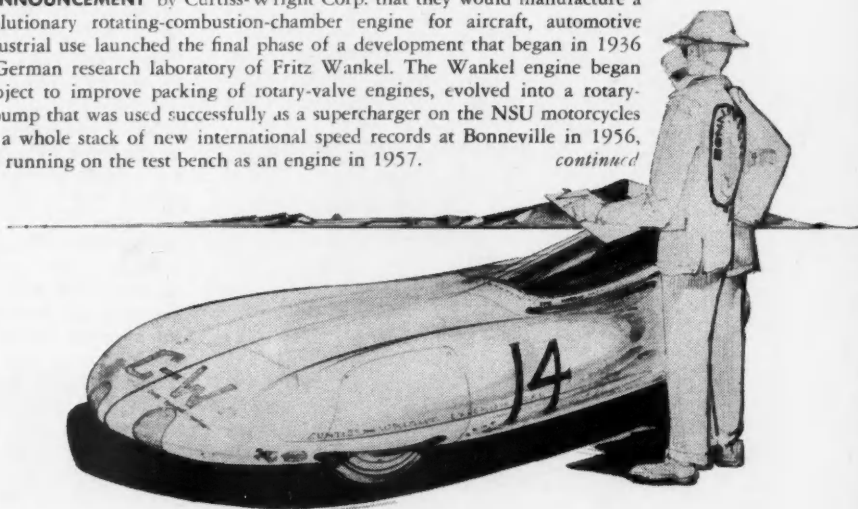
"THE MAGIC FORMULA"

Rotating combustion chamber engines, developed by NSU and Curtiss-Wright, approach "the magic formula" of one hp per pound with a non-reciprocating system that operates on low-grade fuel. German research and American mass production may replace the present piston engine by "stacking" combustion chambers to meet a wide range of horsepower requirements.

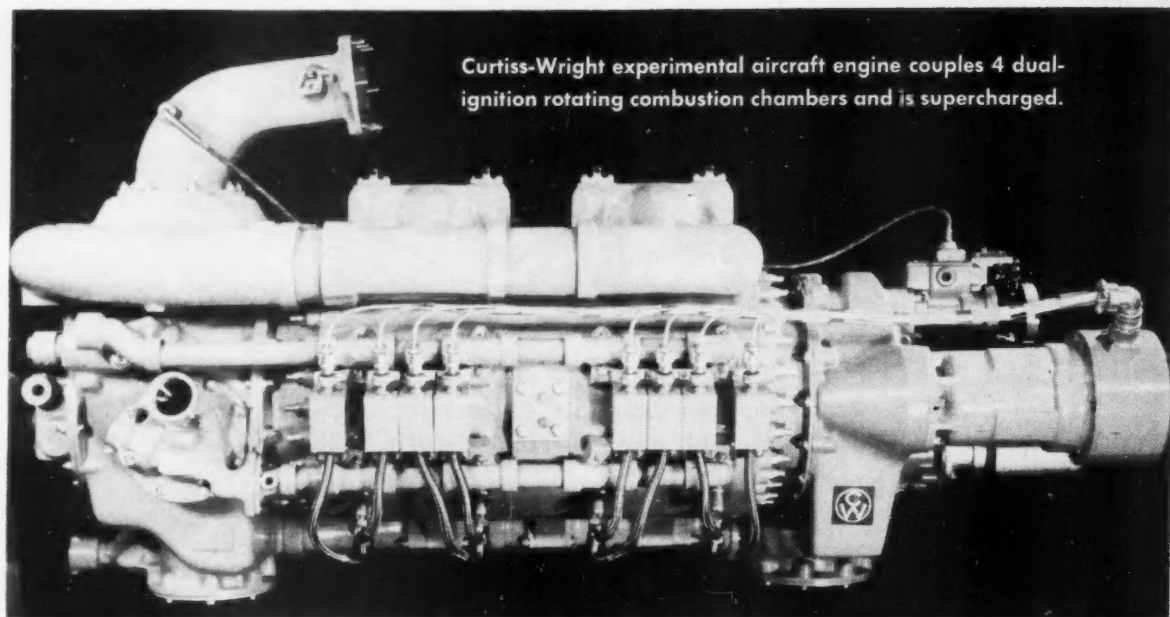
by Charles Nerpel, Technical Editor

AN ANNOUNCEMENT by Curtiss-Wright Corp. that they would manufacture a revolutionary rotating-combustion-chamber engine for aircraft, automotive and industrial use launched the final phase of a development that began in 1936 in the German research laboratory of Fritz Wankel. The Wankel engine began as a project to improve packing of rotary-valve engines, evolved into a rotary-piston pump that was used successfully as a supercharger on the NSU motorcycles that set a whole stack of new international speed records at Bonneville in 1956, and was running on the test bench as an engine in 1957.

continued

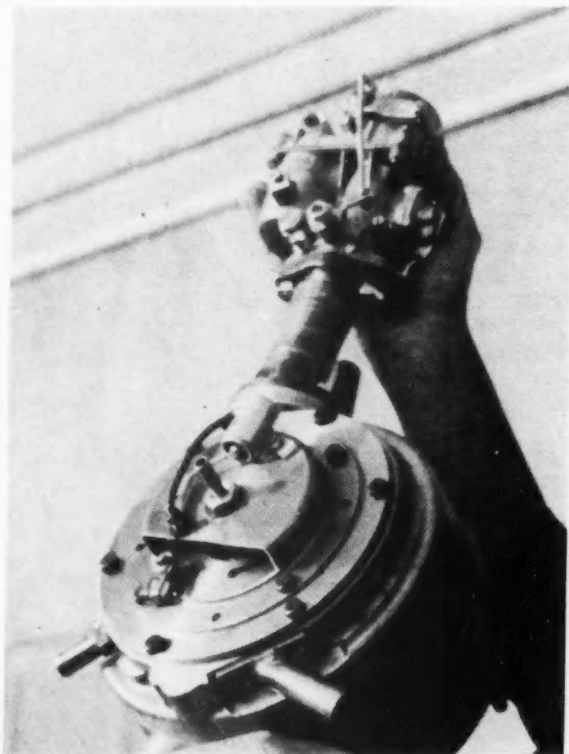


Artist's conception of Bonneville streamliner with 4-wheel drive, powered by compact, lightweight, high-horsepower, C-W engine composed of a series of combustion chambers.



Curtiss-Wright experimental aircraft engine couples 4 dual-ignition rotating combustion chambers and is supercharged.

1 HP per POUND *continued*



The original idea for an engine with no reciprocating parts involved a rotating outer casing with an irregular inner member that performed the valving and compression/combustion operations. This theory seemed workable, so Fritz Wankel and the NSU factory at Neckarsulm, Germany, entered into a joint research agreement in 1951. Such an engine was built and run in 1954, producing 32 hp at 17,000 rpm with a chamber displacement of 125cc. Convinced that the test bed reliability and output were equal to existing conventional piston engines, NSU forged ahead with the program. A new model was built, with a static outer case and a rotating equilateral triangle performing valving, compression and combustion as it revolved inside an "8"-shaped chamber in the outer case.

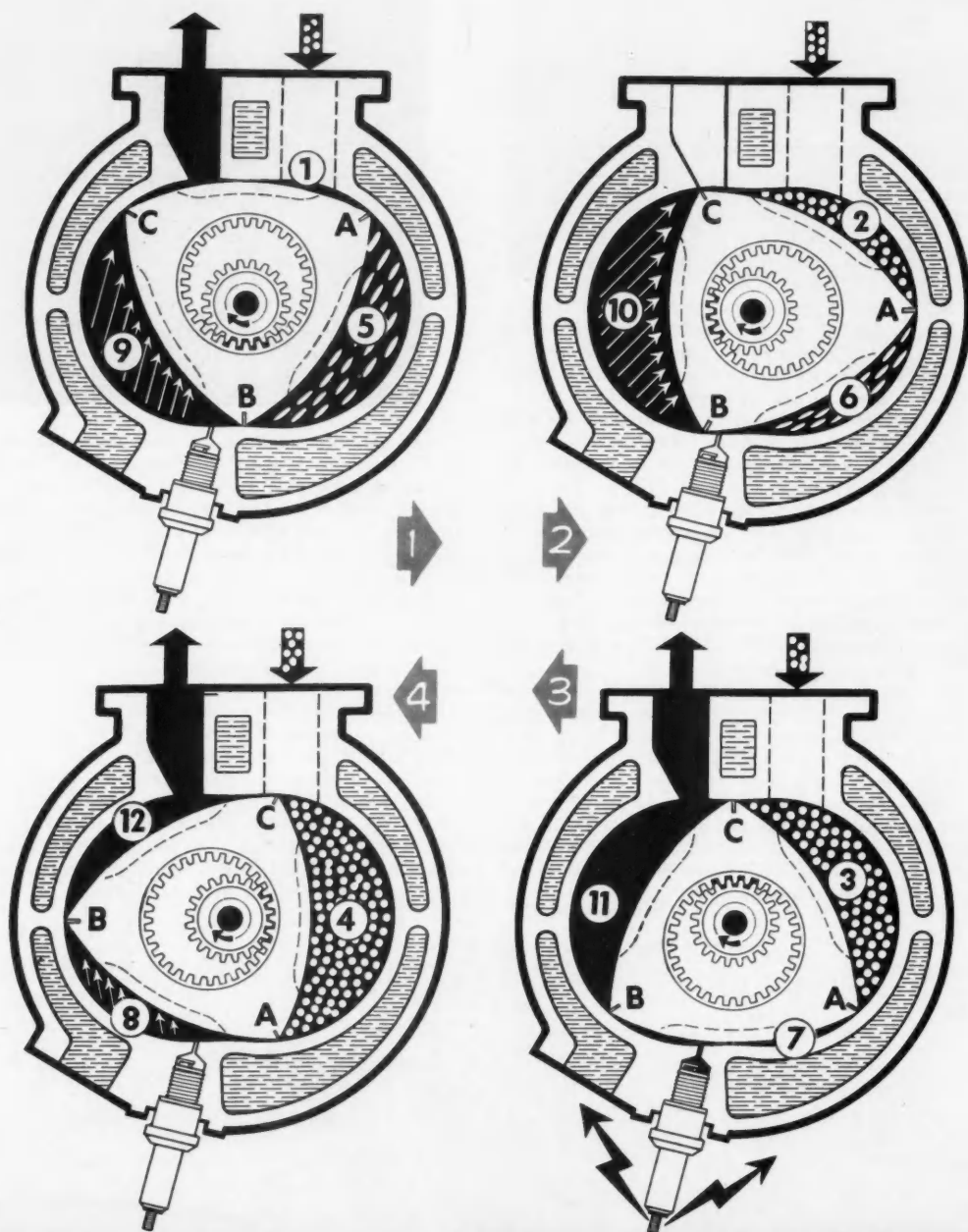
This new model solved many problems. It was simple and light, the outer case could now be water-jacketed for cooling, the spark plug was in a stationary position, there were no large masses to counterbalance, and it had only two moving parts—the rotor and the output shaft. This little engine has now been under running tests for nearly three years, and reliable information indicates that there are some NSU Prinz cars running on the highways of Europe with this powerplant.


The actual agreement between Curtiss-Wright and NSU was signed in 1958, giving the American corporation manufacturing rights in the United States and setting up the machinery for sharing research information. As indicated by the announcement of this program almost a year later, Curtiss-Wright must have done enough of their own preliminary research to be convinced that the Wankel-NSU engine has unlimited possibilities as a new powerplant for light planes, automobiles, boats and industrial equipment.

continued

NSU's tiny engine is just a handful but produces 32 hp and weighs only 24 pounds with carburetor and exhaust manifold.

Each
intake




1-4 

INTAKE

5-7 

COMPRESSION

8-10 

COMBUSTION

11-1 

EXHAUST

Each revolution of the triangular rotor produces three complete intake, compression, combustion and exhaust cycles. A cam

on the end of output shaft allows rotor tips to maintain constant contact with chamber, still engage center gears.

1 HP per POUND *continued*

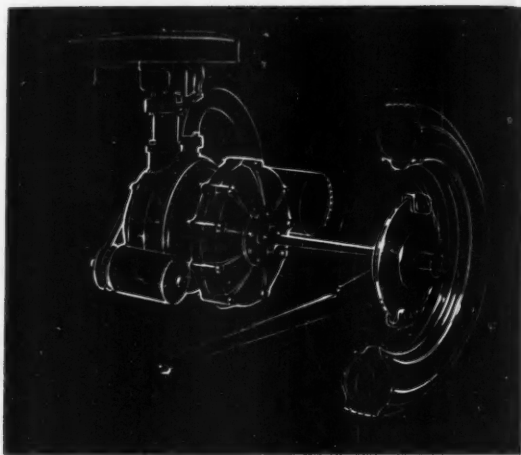
Small size and flat torque curve of the C-W engine would make it an ideal powerplant for fluid drive to each car wheel (right).

Professor Baier of Stuttgart worked out the mathematics for the shape of the static chamber, so designed that the circular cam on which the rotor revolves holds the tips of the equilateral triangle rotating member in constant contact with the chamber contours. This is known as a "two-arc epitrochoide." From this information NSU developed special grinding machinery and tools for construction of the test engines.

To hold the pressures of intake, compression and combustion, small spring steel strips are inserted in rotor tips and sides. This method of packing was developed and proven by Wankel as part of his original development project many years ago. Lubrication is by circulating oil and little wear is evident on the sliding parts. The Germans have had no heating problems with water-jacket cooling but are continuing research to develop an aircooled version, no doubt looking forward to motorcycle as well as small car applications.

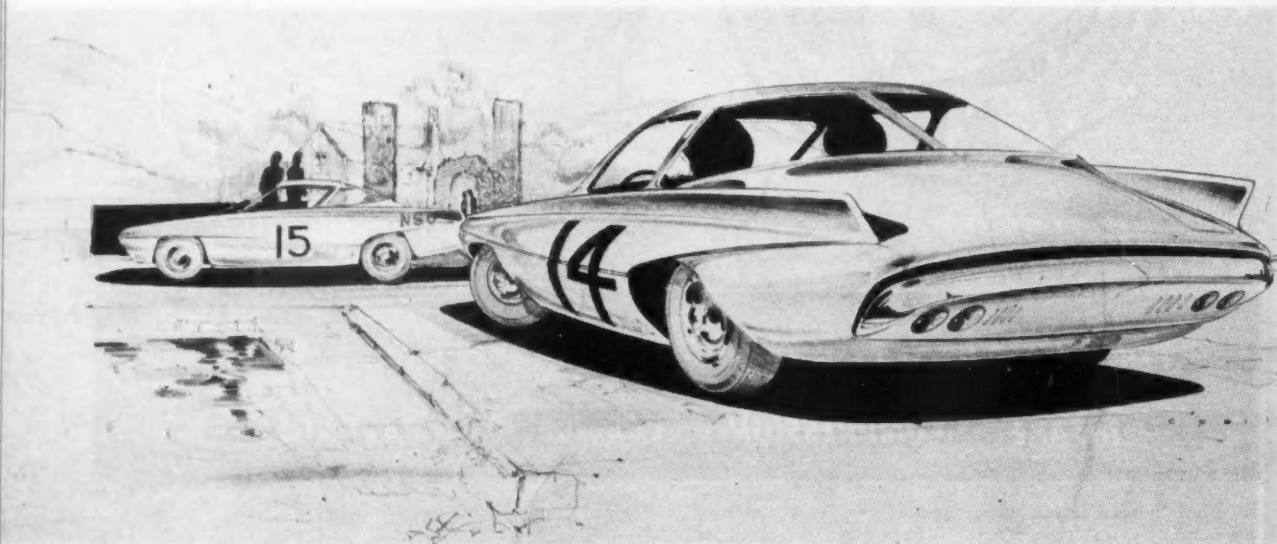
Power strokes of the rotor (three per revolution) are transmitted to the driveshaft through a sun-gear arrangement with the internal teeth in the rotor driving external gears on the shaft in the ratio of 2 to 3. This means the rotor turns two revolutions (six power impulses) for every three revolutions of the output shaft, providing a very smooth flow of power due to the very high permissible rpm (17,000) possible when there are no reciprocating parts involved.

The NSU rotor has an effective diameter of about eight inches and is approximately $2\frac{1}{2}$ ins. thick. The Curtiss-Wright engines, aiming at higher horsepower, will employ larger rotors and then stack a series of combustion chambers together in a multiple-rotor system with a common output shaft. They are aiming at one hp per pound of engine weight and will build supercharged versions for aircraft use. Whether they will avail themselves of this principle for supercharging as NSU did on their record-run motorcycles is still undecided as early experiments have been with centrifugal blowers.



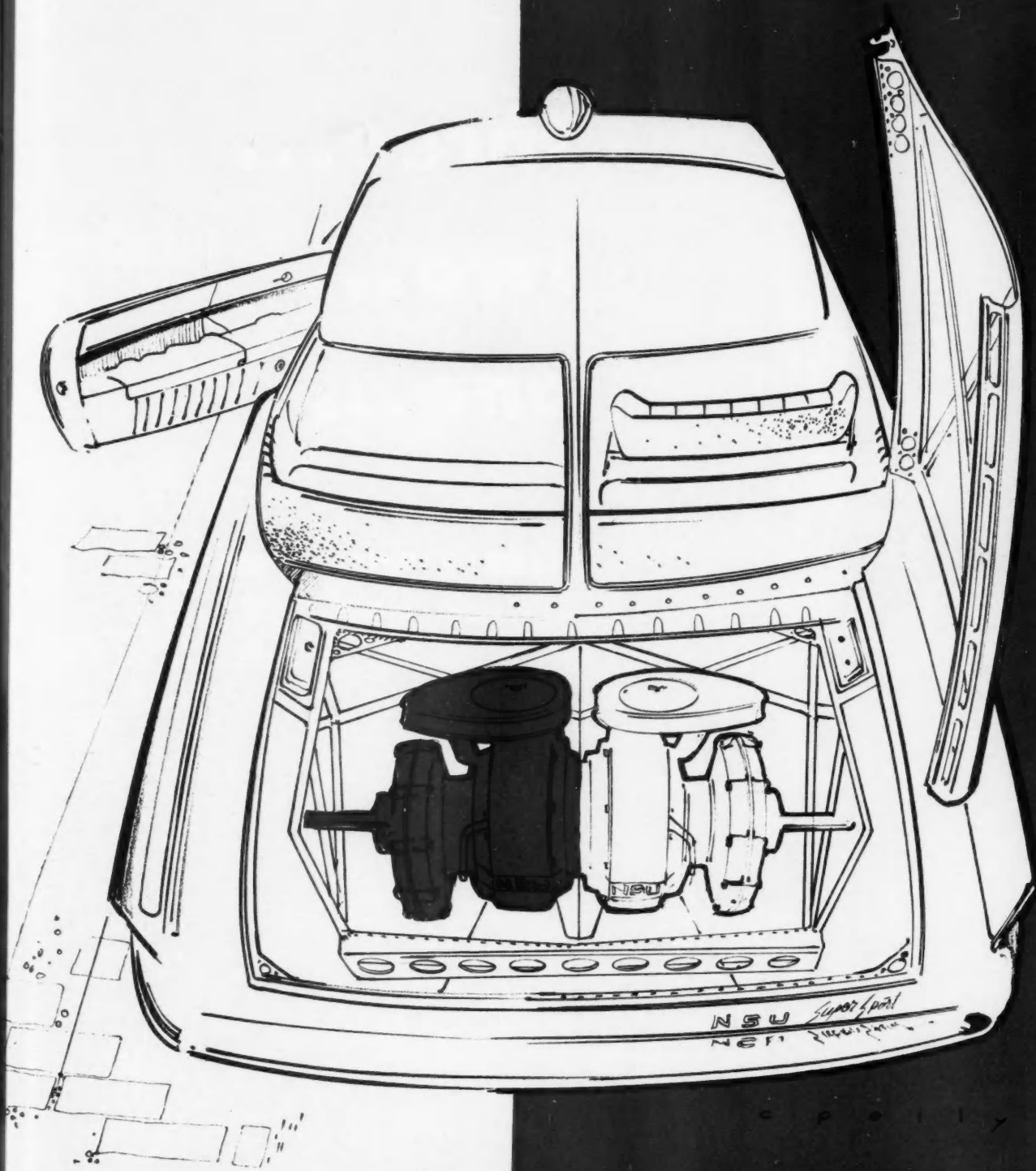
Automotive possibilities for such an engine are limitless. Small enough to be placed close to the wheels and with a very flat torque curve over a wide rpm range, an engine for each driving wheel, coupled to it with a fluid drive, is an interesting conjecture. A stack of these little powerplants could fit well in dragster, lakester, sportscar or family sedan, with enough units coupled together to furnish the desired horsepower, adding as needed. For light aircraft, the same stacking will suit requirements for either multi- or single-engined nacelles, and best of all, the fuel octane requirements are very low.

In principle, the Wankel-NSU-Curtiss-Wright engine is so simple there must be a host of engineers saying to themselves, "Why didn't I think of it?" Many projects fail between original principle and actual efficient operation, but this engine does not seem to fall into this category. Curtiss-Wright is so enthused over its possibilities that they have assigned 100 researchers in their Paterson, N.J. plant to rush production planning. We are pretty sure NSU will produce their version of this engine for one of their cars this year, and we hope to be able to buy the American version before 1961 is too far along, although availability and costs have not been made public.



Lower, roomier, short-wheelbase passenger cars are possible with small powerplants located at or near the driving wheels.

Two rotating combustion chamber engines could be coupled for existing rear engined cars such as modified NSU Prinz (right).





three...

two...

one...

FIRE!

GILLERIE

THE RATHER COMMON and easy-to-use Fourth of July skyrocket, little changed since it was first used centuries ago as a wartime weapon of terror, is powered by solid fuel. Thrust of rapidly expanding gases created by burning gunpowder (a solid fuel) rushes through a simple orifice and causes the rocket to rise rapidly and to a fair height on a relatively small amount of fuel. The flight ends when the last remaining grains of powder light the "war head," a mixture of magnesium and various other powdered metals, to produce the brilliant display of pyrotechnics that brings "ohs" and "ahs" from the spectators.

Using various liquids such as oxygen, alcohol, hydrogen peroxide, with a dash of potassium permanganate, space probes and military weapon experts have created multi-million-dollar versions of the simple skyrocket. Energetic and expensive research has been under way for some time in an effort to develop a solid fuel propellant as easy to handle as gunpowder but with a great deal more power potential than the present unstable liquid fuels first used in the German V-2 that terrorized England almost 20 years ago.

Working energetically but not as extravagantly as some of our government projects, a Tucson gunsmith, John P. Hagerty, is experimenting with a solid fuel engine for automotive and marine use that burns molded billets or cartridges of a nitro-cellulose compound. Basic source of cellulose is the cell walls of living plants such as trees, corn stalks and cotton. Compared to mineral fuels which are rapidly depleted with little chance of replacement in the next million years, cellulose sources are available in the very things we cultivate and grow for food, clothing and shelter.

The Hagerty experimental fuel charges, while not the ultimate in operational power output, provide a good basis for further development. They are one inch in diameter, three inches long, look very much like molded plastic screwdriver handles, and burn about five minutes at an unconfined flame temperature of about 1320° F. Each billet contains its own recessed detonator, similar to a blank cartridge, and is easy to handle as it requires the frequency explosion provided by the detonator to start it burning. The entire fuel package is self-consuming with no



Inventor Hagerty prepares one of his solid fuel engines for firing. Test site for experiments is in the desert near Tucson.

containers or empty cartridges to eject upon completion of firing.

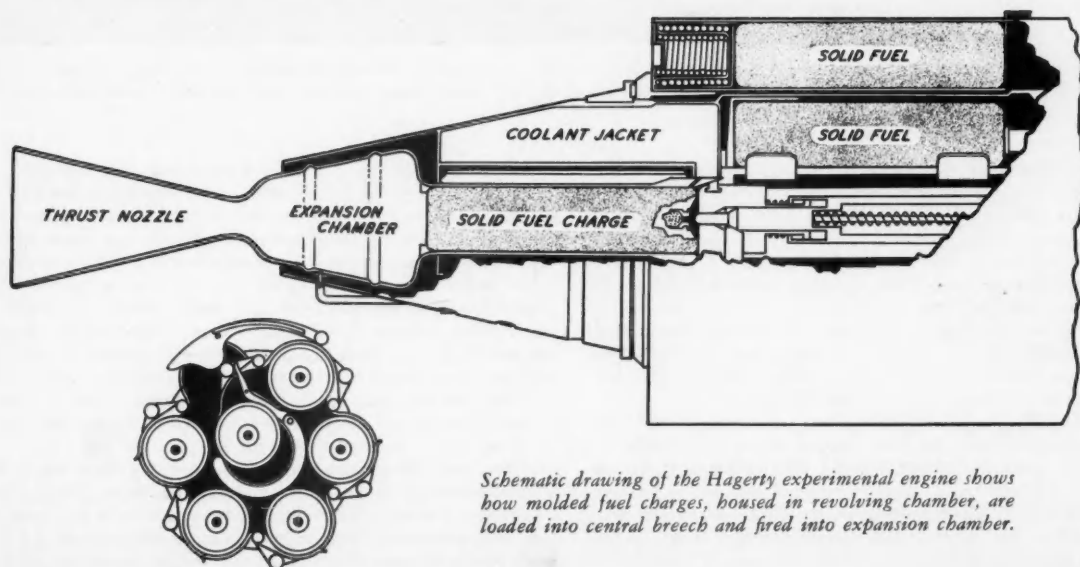
The engine that uses this fuel reflects some of Hagerty's gunsmith experience as it operates similar to a revolving-cylinder pistol. Fuel charges (11 on the test engine) are carried in a revolving cylinder with provision for injecting fresh charges into a chamber in its center. A bolt mechanism and firing pin assembly pushes the fuel billets into firing position, strikes the detonator, and expanding, burning gases rush through a thrust nozzle. Once the first charge is fired, the reloading cycle is operated by a small amount of thrust gases piped back into the actuating mechanism.

For application to automotive or marine use, the main thrust force can be directed to a turbine bucket wheel, or the pressure surges can be leveled off in header tanks and fed to pressure/temperature conversion units similar to piston-type steam engines.

Hagerty has not as yet divulged the thrust pressures at the nozzle, but with the proper fuel his engine could be used as a direct-thrust unit to power rockets or other thrust-propelled vehicles.

—Charles Nerpel

GUNSMITH APPLIES REVOLVER PRINCIPLE TO LOAD AND FIRE SOLID FUEL ENGINE



Schematic drawing of the Hagerty experimental engine shows how molded fuel charges, housed in revolving chamber, are loaded into central breech and fired into expansion chamber.



by William F. Nolan

RACING: PROVING



Continental Divide proved newcomer compacts have a lot to learn. Rambler was first, VW second. Bob Donner's

Corvair (sliding) illustrated rear-end geometry that caused heavy tire wear and killed chances for victory.

THE AUTOMOBILE INDUSTRY is undergoing a revolution in America today as a direct result of the compact car. The Ford Motor Co. recently estimated that the ranks of new-car buyers have been boosted 41 per cent thanks entirely to the compacts. These new compacts were purchased by average Americans in the middle-income bracket who would normally have picked up a used car. Therefore, the heyday of the used car may well be past, as more and more buyers will be turning to the small economy sedan—particularly in view of the fact that Detroit has entered the lists with Rambler, Lark, Corvair, Falcon and Valiant, not to mention other models soon forthcoming.

In early November of last year, at the Continental Divide Raceways near Denver, another phase of the small car battle was launched: compacts in competition. The effects may be far-reaching. In fact, many insiders now feel that the *real* test of the compacts will not take place on a polished showroom floor; the real test will be provided at full throttle on twisty road circuits across the nation.

In March, 1956, after a full team of Corvettes elected to do

battle with the giants, at Sebring, a major shakeup took place at Chevrolet. All of the competition equipment used in the Florida 12-hour race had to be offered as optional items in Chevrolet showrooms. The end result was an all-American sportscar which took its eventual place as a production world-beater in competition ranks. Corvettes, since Sebring '56, have not only been faster, but have been made safer and more stable, a development that only the rigors of racing can provide. (Among the optional items dictated by that initial Sebring outing: magnesium wheels, special brake drums, heavier sway bars, oversize gas tanks, special shocks, shorter steering column.) As team manager/driver John Fitch put it: "Never was so much improving of the breed ever accomplished in so short a time."

Now, with the advent of competition among the compacts on circuits such as the Continental Divide Raceways, Sebring and Daytona, it is only logical to assume that tomorrow's compact car will reflect the lessons learned in today's all-out racing. With but two events run (Daytona, at this writing, is still upcoming) it is still too early to predict actual changes, but it is safe to

HOW STOCK IS "STOCK"?

COMING OF THE COMPACT CARS has created new interest in competitive events, with racing groups now sponsoring such events under the dubious title of "stock car" races. This raises again the old question: How stock is "stock"? The term "stock" implies that the cars entered in competitions are taken "out of stock" and should be identical in every detail to the car that would be delivered to a buyer at a local dealership.

This ain't necessarily so.

There is also a general belief that the Automobile Manufacturers Association (AMA) acts as an arbiter in such cases and that cars conforming in detail with data contained in the AMA Specification Forms are "stock." Let's spell this out again.

AMA does not certify anything, nor are any specifications "filed" with the AMA. The AMA Specifications Forms

were developed purely as a convenience to the car companies in order to enable them to supply, in a uniform way, the answers to the most-asked questions about their products. These forms are supplied to the companies in blank, are filled in with information considered pertinent to the cars, and then are made available by the individual companies to the press or other interested parties, including racing groups.

Racing groups, as a rule, accept this information as a yardstick to determine if a car is stock; however, these specifications are subject to revision at the discretion of the company. Cars entered in competition—which can include modification to cams, valves, carburetors, ignition systems, rear axles, springs, etc.—can be made eligible by the simple process of the factory notifying the racing group that such modifications are

"factory approved," making them *stock*.

Racing groups can stipulate that modified parts be produced in a given quantity before it will consider them "stock," but these groups are not prone to seek such a responsibility and would have no way of proving, or disproving, that their production minimums had been built. Racing teams are out to win and conscience is usually subordinated to conquest.

There is nothing unfair in this, since each factory has the same right to modify its entries—officially. On the other hand, the race-goer and potential car buyer should not expect the car which he buys from a local dealer to perform in the same high manner as its stablemate winner of last Sunday's race did. Also he should not expect to be able to buy modified parts from his dealer to make his car perform like its competition blood brother.

—The Editors

GROUND for COMPACTS



At Sebring, 3.4 Jags (compacts?) took first and third, with Larks second and fourth. Volvos, Falcons, Valiants and Corvairs

fought for fifth through twelfth. Cornering, Lark is flattest; both Falcon and Valiant have almost lifted inside front wheel.

conjecture that changes will be made. Although the compacts were not designed with competition in mind the die has been cast, and if this form of sport achieves popularity with the spectating public—as it has given every indication of doing—then we shall see safer, faster production compacts emerge over the coming years.

Performance-wise, there is little to choose from Detroit's present crop of small cars. Studebaker's Lark, with its optional 180-hp V8 engine (used at Sebring), and the Rambler 6, with its 127-hp engine, top the list as to maximum speed—with the Valiant, Falcon and Corvair rated at 101 hp, 90 hp and 80 hp respectively. (There is also the Rambler American at 90 hp.) Already Ford has a hotter Falcon (see page 78), Chevrolet is working on a hotter Corvair and the Rambler American may get the 127-hp, ohv engine as an option. The only import rated close to the Detroit compacts in horsepower is Sweden's Volvo, with its 85-hp engine placing it in strong contention. (The remainder of the imports range from the Renault Dauphine's 32 hp to the Opel's 57 hp.) Of them all, only the V8

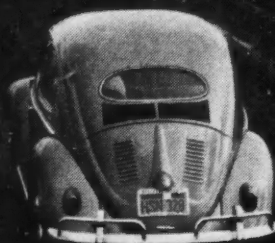
Lark will reach 100 mph, but the Volvo and the Valiant will both break 95.

Thus far, just how well have individual marques fared at full throttle? How well have U.S. compacts done against imports?

The first compact car race was a six-hour affair held at the Continental Divide Raceways near Denver—and the winner was a Rambler American handled by Johnny Mauro and Tommy Rice. Just three miles behind it a stubbornly-driven Volkswagen in the hands of Doubek/Southwick finished second. (In the classic tradition of the tortoise and the hare the tiny 36-hp VW continued blithely on with but a single pit stop while most of the other competitors were forced in for gas and tires.)

Although no Valiants or Larks were entered, the Corvair-Falcon duel was fiercely fought. However, just beyond the first hour, Corvairs began blowing tires. Eventually Corvair No. 3 suffered a blowout on one of the sharp turns and flipped end-for-end. (This same unhappy fate also overcame a Renault and a Volvo.) Behind the Rambler and VW the Ford Falcons

continued on page 78



Small Size...



Big Surprise!

91 MILES PER HOUR!

WHEN YOUR TACHOMETER READS 4550, there's no way around the fact that you're going 91 mph. By then the needle of your speedometer has gone past the red jewel, and the only thing you know for sure about your speed is that every 1000 rpm equals 20 mph.

There's something else you realize, too. If someone should be watching as you go by, he wouldn't believe it.

For sure, ours was not an everyday VW. Two short sections of two-in. exhaust pipe replace the fuel-line-like intake manifold and feed directly into two-in.-diameter ports through two Solexes.

A 1/2-in. stroker crankshaft (balanced, billet) brings displacement to 86.5 cu. ins. (1417cc), and domed pistons raise compression ratio to 10.5 to 1. A wild cam and valving to match bring peak power to 6500 rpm.

Harry Weber, who makes and sells hop-up kits and who prepared the car, gave us an odd set of instructions when we took the car from him: "Take it out and blow it up. If anything is going to break, I want it to break on this car."

To seat the rings, our Weber-VW had followed a Corvette and a Studebaker Hawk across the desert and through Death Valley (117°F.); then to Las Vegas and back to Los Angeles over 7800-ft. Angeles Crest mountains (MT, Nov. '59).

An invitation to European Motor Products, Inc. brought an Okrasa EMPI-VW (a 1954) to the laid-out quarter at Riverside Raceway. Theirs was a special one, too.

Heads and manifolding were Okrasa, with two Solex carbs. EMPI valves are not bigger than stock, but are tulipped with

stiff springs to allow high engine revs. Compression ratio is 8.5 to 1, but the big thing was the EMPI 16-R competition cam. A 6mm stroker crank (equal to about 1/4-in. stroke) brings displacement to about 79 cu. ins. (1300cc).

The engine hood was louvered, Porsche brakes had been fitted, and the shifting lever was shortened and moved back to be closer at hand. This proved to be an important factor when we got down to the day's business.

Considering that these were Volkswagens, the 1/4-mile times and speeds were unbelievable. The best quarter for the Weber-VW was 20.9 secs. at 66 mph. The EMPI car clocked 21.4 at 63 mph—almost identical. Dragging the cars time after time with alternating drivers brought either across the line first.

On paper, the bigger displacement of the Weber-VW should give it a jump off the line, and it actually seemed to do so. The Weber car reached 20 mph nearly half a second ahead of the EMPI car. But by 50 mph, the EMPI car made up this time and actually gained a fraction over the Weber car. This was because shifts from gear to gear were more positive and quicker with the modified shifting lever and linkage.

To us, these two cars represent the European and the American approach to hop-up. The Weber car was stock everything except engine, which was upped in tune and in displacement. The EMPI car was modified bumper to bumper, with less emphasis on displacement alone.

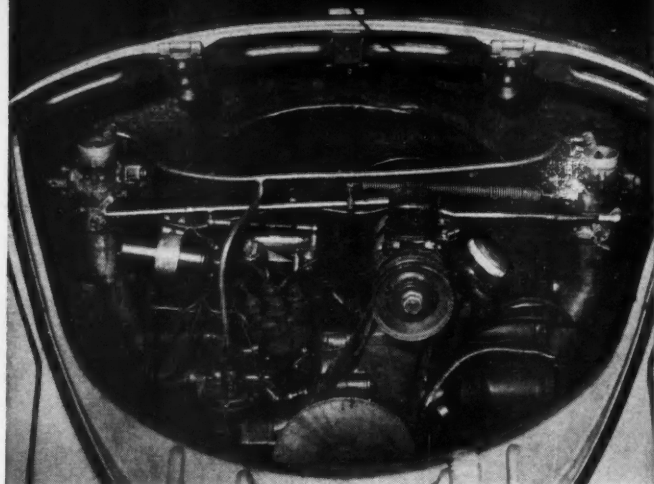
They are a matched pair. Either one is more like a Porsche than a VW, and either is a real good buy—especially if your engine needs rebuilding anyway.

For information about the respective kits, write to:

Weber Tool Co.	European Motor Products, Inc.
2990 Ramona Blvd.	P O Box 668-A
Los Angeles 33	Riverside, Calif.

For the job they do in efficiently increasing VW performance, the Weber and the EMPI kits are given the MOTOR TREND Seal of Approval.

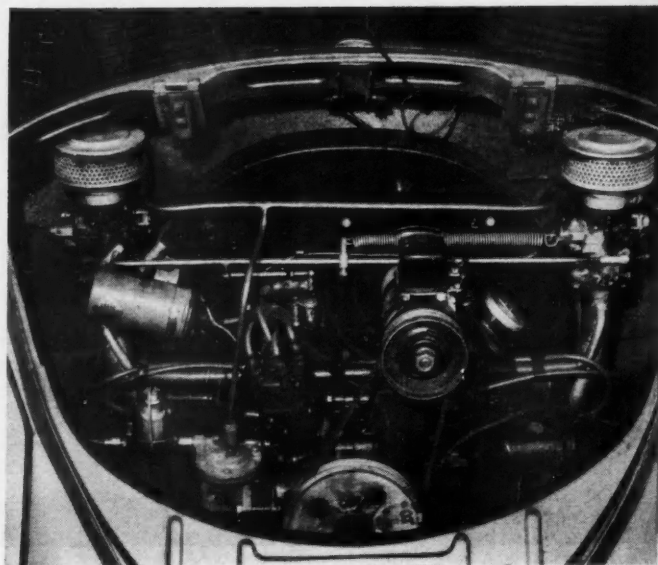
—Len Griffing



Obviously no stock VW, the Weber car has half-inch stroker crank, deep breathing and wild cam. Performance belies harmless appearance on the road—wheels chirp in second gear.

HOW THEY COMPARE

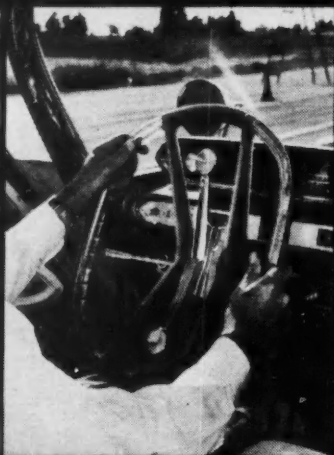
Acceleration	Stock VW	Weber-VW	EMPI-VW
0-20	5.6 secs.	2.7 secs	2.9 secs.
0-30	9.2	5.2	5.1
0-40	14.5	7.8	8.0
0-50	21.0	12.4	12.2
0-60	32.0	17.0	18.8
0-70	—	25.8	25.8
1/4-mile	24.9, 52 mph	20.9, 66 mph	21.4, 63 mph
Passing Speeds			
30-50	11.8	7.2	7.1
50-70	—	13.4	13.6
Top Speed	68 mph	91 mph	91 mph



Of the same breed with minor differences, EMPI kit uses some Okrasa parts, others by EMPI: quarter-inch stroker crank, competition cam, twin Solexes. It's a cheap way to own a "Porsche."



Ram-tuned for competition or cruising, the



Increased visibility of flattened wheel rim is compared to the height of its unflattened sides extending above cowl when wheel is turned beyond normal driving position. Back of driver's seat is higher than passenger side for extra back and shoulder support.

Ample length of luggage compartment allows plenty of room for those extra-long packages but flat-mounted spare cuts available floor space in the most accessible region. Decklid seals well, is spring loaded with torsion bars to ease opening and closing.

PLYMOUTH ROAD TEST

THE NEW DETROIT COMPACT CARS grabbed most of the limelight during the 1960 model announcement time, with much of the publicity concerned with who was to be first on the market and finally simmering down to their availability and actual road tests. MOTOR TREND devoted a lot of time and effort to satisfy our readers' demands for thorough tests of the new compacts, while a large segment of our subscribers were clamoring for tests on the big hot '60 models. Taking them as they become available, we are trying to test cars with power combinations most emphasized, advertised, or demanded.

While compact and economy cars are still very much centered in the automotive spotlight, high-performance, standard-sized cars are taking their share of the sales. True, even these are available with de-tuned economy V8s and six-cylinder options, but what about the real hot machinery? Can one still buy it as a package without rebuilding the engine or loading it with bolt-on speed-shop goodies? The answer is a loud *yes!* The major manufacturers are offering cams, compression ratios, valving and carburetion that were strictly "hop up" just a few years ago. Unfortunately, the handling qualities of many Detroit cars are just now catching up to their speed/power potentials, and we repeat—just catching up—as few have achieved it.

The Plymouth, one of the best-handling cars we tested in 1959, is even better this year. Minor improvements of torsion bar front suspension, better shocks and spring geometry in the rear, unitized body-frame construction, and a good front-to-rear weight distribution—even with the biggest engine available—make the Plymouth the best handling car in the Chrysler Corp. line of standard-sized cars.

The SoroRamic V8 engine, with which the MOTOR TREND Plymouth Fury test car was equipped, makes no claims to fantastic fuel mileage or even the use of regular grades of gasoline, but it certainly is a sizzling performer with handling qualities compatible with its horsepower. Sheer dragstrip acceleration is one thing—many cars have it—but safe use of some of this potential in normal highway or traffic driving requires an extremely stable, well suspended, positive-steering vehicle with no "built-in" mistakes. Plymouth fills these requirements extremely well.

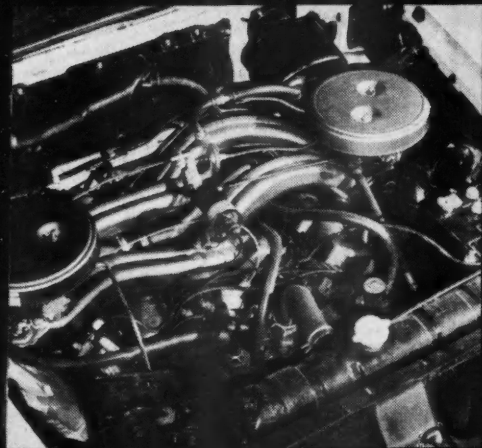
THE CAR WE TESTED Plymouth's hot one this year is the SoroRamic Fury, basically a slightly restyled 1959 body configuration that includes larger fins and front-end grille changes. Front and rear suspension with geo-

continued on page 72

by Charles Nerpel, Technical Editor

SEE CHARTS, NEXT PAGE

Fury offers safety, comfort, sizzling acceleration



Cross tubes of tuned intake manifold place 4-bbl. carburetors out where they can be easily serviced, but make access to spark plugs difficult. Throttle linkage and vacuum idle control could stand improvement as constant idle adjustment is difficult to maintain.

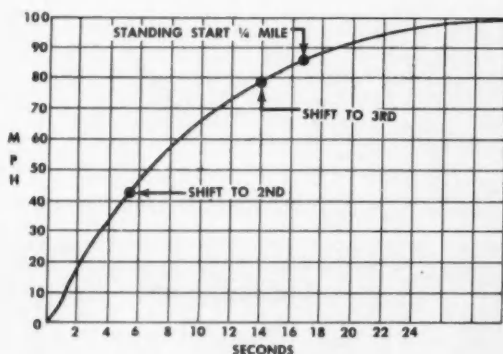
Automatic swivel on front seats aids exit and entry, especially for women with tight skirts, but rear seat passenger will have some mighty sore shins if not warned in advance to get his legs into a safer area before seat pins them painfully to floor panel.

'60 FURY ROAD TEST



Acceleration

0-45 mph 6.0 secs. 0-60 9.0
Quarter-mile 16.9 secs., 85 mph
30-50 3.3 45-60 3.0 50-80 8.1



Top Speed

Comfortable cruising From 50 to 90 mph
Maximum speed 120 mph

Stopping Distance

From 60 mph to standstill 164 ft.
(In 3.9 secs. with maximum of 0.75-G deceleration)

Stop after maximum acceleration to end of 1/4-mile 335 ft.
(In 5.8 secs. with maximum of 0.75-G deceleration)

Gas Mileage

	Mpg	Mph
Over-the-road averages		
2-lane, 4-lane open road	14.1	61
2-lane, winding mountain road	12.6	58
4-lane, open road, mild hills	13.8	68
2-lane, level, open road	14.0	63
Overall average for 831 miles	13.6	62.5
City driving	11.4	—
Constant speed, level road fuel checks	17.9	30
	17.4	45
	16.9	60

Motor Trend VisiGraf

1. ENGINE Big and powerful, 361 cu. ins. and 310 hp, the test car engine is known as the SanoRamic option. A 383-cu.-in., 330-hp engine, with the same induction tuning and 2 4-bbl. carburetors, is available on special order. The plumbing of hydraulics necessary on today's engine do nothing to ease accessibility to plugs, valve covers and other frequently adjusted parts of an engine. Top this with the cross-over pipes of a tuned induction system, and there is a maze of things interfering with what was once a minor repair.

2. INSTRUMENT PANEL. A linear speedometer, located just under the cowl overhang, indicates speed graphically with small red blocks appearing in blank black spaces. This is one of the best ribbon-type speed indicators we have seen. Other instrumentation—lights for oil pressure and generator, and electric gauges for temperature and fuel level—can be read at a glance night or day.

3. WINDSHIELD, VISION Progress with improved optics of wrap-around windshields has been so great that they are distortion-free. The Fury's general driver visibility is excellent, improved by lower location of center rear mirror, flattened steering wheel, and inside-controlled exterior side mirror. Thin cornerposts front and rear provide good all-around view, with no blind spots. Windshield angle and cowl padding eliminate internal reflections.

4. DOORS Large, wide-opening doors, spring-loaded with laminated torsion bars, lock open in two positions and close easily with good sealing. Exterior door handles disengage when locked from either inside or out, eliminate damage to mechanism if forced. Access to rear seat in 2-door is narrowed when front seat is in rearmost position. Handles and armrests work easily.

5. REAR SEAT Comfortable, with more padding in the center due to lowered driveshaft tunnel, unit body. Not much head interference from the slanting rear window, but legs can be painfully pinned to front of seat by full weight of front passenger swiveling seat against the shins. Plenty of hip- and shoulder room, comfortable armrests and good upholstery, with well-contoured seat.

6. TRUNK Big and roomy, with enough total length (66 ins.) to carry a bicycle, but flat-mounted spare cuts usable width down to 45 ins. Decklid opens wide, eased by torsion bar spring-loading, exposing a 3-by-5-ft. opening, 20 ins. deep. The rear lip of the trunk is 31 ins. from the ground, nice for unloading or loading packages of moderate weight but a long lift for the spare tire.

7. REAR SUSPENSION Conventional live axle with outboard semi-elliptical springs has been slightly modified over the 1959 model by change in spring rate and axle position, and slightly firmer shocks. Repositioning of axle on springs has reduced wrap-up caused by these springs taking the torque load of acceleration, to a point where wheel hop is a thing of the past.

Car at a glance

Things we like

Solid unit body construction
Comfortable ride
Excellent handling
Factory-modified high-performance engine
Good brakes
Quick, easy steering
Driver position and visibility

Things we don't like

Swivel seat interference with rear passengers
Vacuum idle control
Space-consuming location of spare

8. FRONT SEAT The test car was equipped with swivel seats of the automatic type, linked so they swiveled when the doors were opened. While designed as individual semi-bucket seats, with the back on the driver's side built up higher for increased shoulder support, a well-padded center section provides comfortable seating for the center or 3rd passenger. The 6-way power seat option does not interfere with seat swiveling or the folding center armrest. Seat-to-floor height is good as is the thigh and back support.

9. STEERING Full advantage of the hydraulic leverage offered by power steering is reflected in the quick ratio (3.5 turns lock-to-lock) of the Plymouth line of cars. Fingertip control, quick reaction to short movement of the wheel rim and just enough transmission of the road surface irregularities to give a positive feel to the driver are all combined in the Fury's power unit. Car handles extremely well in traffic, parking, on rough roads, at speed on the highway, and in the tire-squealing corners of the test course.



10. TRANSMISSION The 3-speed automatic TorqueFlite transmission is the only gearbox currently available with the Saronamic engine. It has well selected ratios to provide the best gearing for normal operation and shifts well but not as crisply as some other automatics. Pushbutton control, operated by the left hand, has no parking position, must be in neutral to start engine, but has spring-loaded hydraulic valve to prevent accidental reverse gear engagement. Engine braking or the desire to remain in 2nd gear is quickly achieved with a push of the No. 2 button. Circulating water cools the torque converter, and the unit requires 22 pints of automatic transmission fluid.

11. FRONT SUSPENSION, BRAKES Lateral non-parallel control arms, suspended with adjustable torsion bars and dampened by tubular shocks, make up the Plymouth front suspension. Brake dive and front-wheel washout on hard cornering have been reduced, though little improvement was necessary over last year's car. The effective braking area of 184 sq. ins. is a little on the light side, but better cooling and an improved molded and bonded asbestos lining provide adequate stopping power with little fade. The station wagons are equipped with larger shoes on the same-sized (11-in.) drums which bring the effective braking area up to 207 sq. ins.

SPECIFICATIONS OF TEST CAR

ENGINE: Pushrod-operated ohv V8. Bore 4.25 ins. Stroke 3.38 ins. Stroke/bore ratio 0.795:1. Compression ratio 10.0:1. Displacement 361 cu. ins. 2 4-bbl. carburetors with tuned intake manifold. Dual exhaust. Advertised bhp 310 @ 4800 rpm. Bhp per cu. in. 0.91. Max torque 435 lbs.-ft. @ 2800 rpm.

TRANSMISSION: Torque-Flite 3-speed automatic with torque converter. Ratios 2.45:1, 1.45:1, 1.00:1.

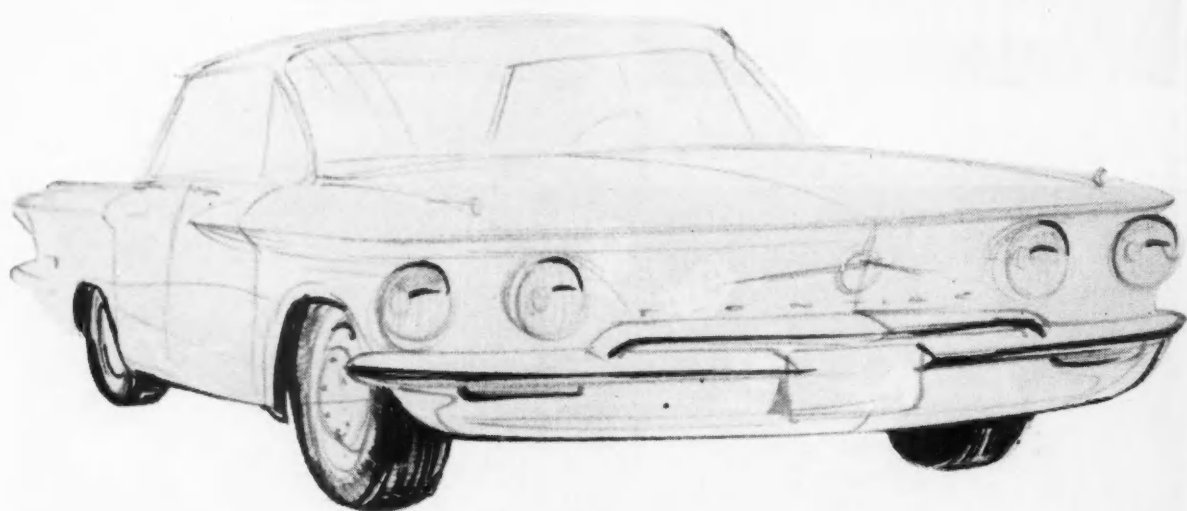
CHASSIS: Unitized body/frame construction. Front suspension—Independent with non-parallel control arms, tubular shocks and adjustable torsion bars. Rear suspension—Conventional live axle with outboard parallel semi-elliptic leaf springs, tubular shocks. Torque taken by rear springs. 7.50 x 14 tires. Rear axle ratio 2.93:1. Steering—Power-assisted; overall ratio 19.15:1; turning diameter 42.3 ft.; 3.5 turns lock-to-lock. Brakes—Total-contact drum hydraulics. Bonded shoes

11.5 x 2.0 ins., front and rear. Total effective lining area 184 sq. ins. Weight/lining area ratio 91.0 sq. ins./ton.

DIMENSIONS: Wheelbase 118 ins., overall length 209.4, overall width 78.6, overall height 54.5; headroom—front 33.7, rear 32.1; legroom—front 45.4, rear 36.0; hiproom—front 63.0, rear 60.5 Tread—front 60.9, rear 59.7. Weight as tested 4080 lbs. (56% front, 44% rear). Weight/power ratio 13.16 lbs./hp.

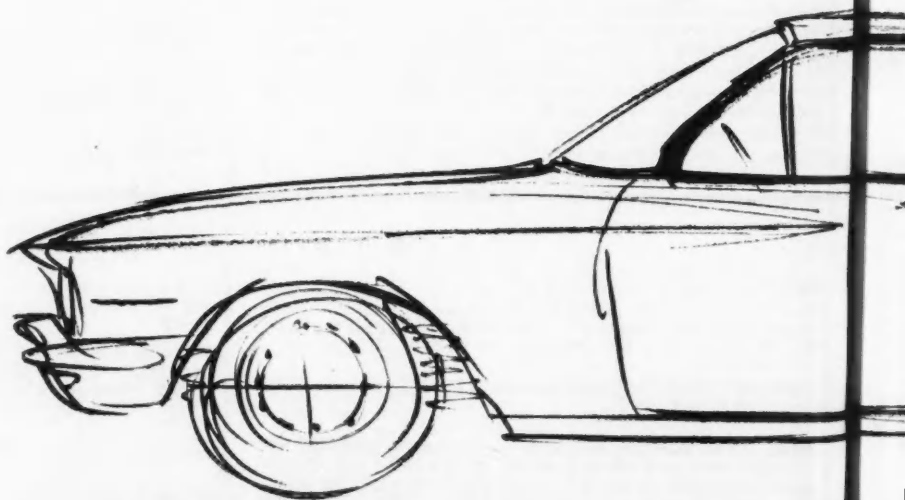
PRICE: Factory-suggested base, f.o.b. Detroit \$2718. As tested \$4034.55.

ACCESSORIES (prices approximate): Saronamic engine \$270, TorqueFlite transmission \$211, 6-way power seat \$96, power windows \$102, power steering \$77, power brakes \$43, radio \$176, heater \$74, swivel seats \$87.



GM's NEW GeM

A Compact "Wide-Track"



HERE'S PONTIAC'S SMALL CAR—AS OUR ARTIST SEES IT IN HIS CRYSTAL BALL

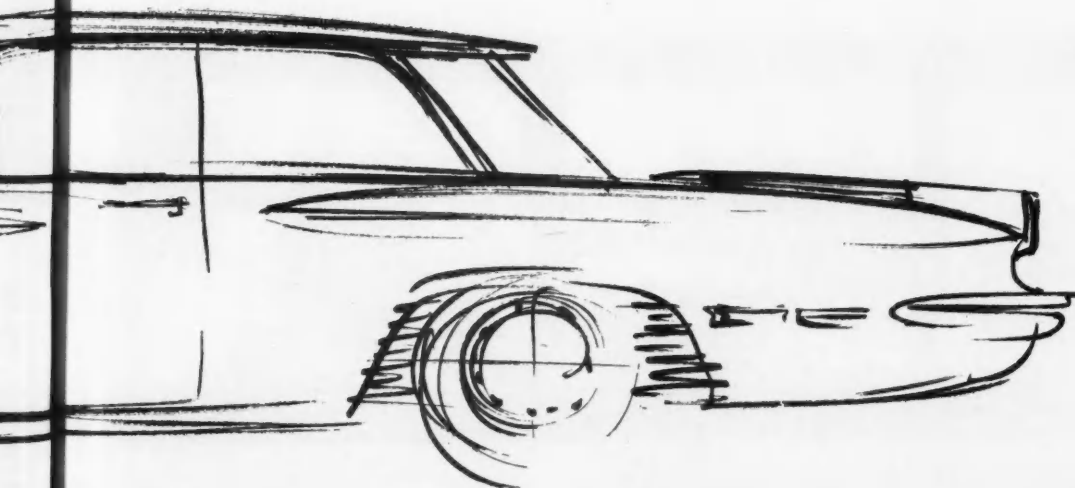
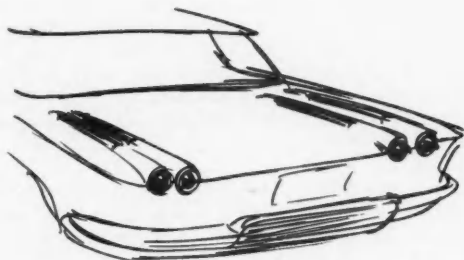
THE NEXT SMALLER CAR from General Motors to enter the fray will probably come from Pontiac, but most likely not until next fall or early winter, according to latest reports. As depicted here in conjectural sketches, car will follow current GM rounded styling trend with sculptured belt line and roof similar to Corvair.

There has been much speculation about mounting a pancake engine—slightly larger than the Corvair's—in the rear, although latest reports indicate current engineering preference is for the front position. Other engine possibilities are Buick's 235-cu.-in. aluminum V8, or a 189-cu.-in. aluminum four-cylinder in-line (essentially

one bank of the present 389-cu.-in. Pontiac engine). Main objection to the latter is that Pontiac does not want to offer a Four while the Corvair has a Six, and the Olds and Buick small cars will offer Eights.

If the decision is to use the Buick engine, the wheelbase would be 114 ins.; if the Four is used, it would be 112 ins.

There is a possibility that with a front engine, the transmission would be rear-mounted—in combination with a solid, not a swing, axle. A short U-jointed shaft at the end of the under-body driveline would permit a lower tunnel and a near-flat floor.



OLDS ROAD TEST

THERE IS A GENERAL TREND in the domestic automobile industry to improve their 1960 models rather than make major changes in engines, suspensions, steering and body styles. Styling changes and facelifts, most of them minor, are naturally dictated by today's competition as buyers are reluctant to purchase a new car that looks identical to the one they trade in.

The compact car program may have had something to do with curtailing extensive "all-new" changes in most of the standard '60 lines, but it certainly did not stop some necessary and gratifying improvements over last year's models.

Noticeably improved this year is the Oldsmobile Dynamic 88. It steers, rides, stops and handles exceedingly well for its weight and size, has good detailing and assembly, and a big V8 engine tuned to perform surprisingly well on regular grades of fuel.

Big cars and big engines with plenty of spare power to take care of the extra demands of heavy loads and trailers that the motorist is apt to carry, have long been a challenge to fuel economy. Taking the "cheaper fuel" approach—more practical than trying to squeeze more mpg from a big engine—Oldsmobile engineers have been able to preserve much of the power and smoothness of the 371-cu.-in. engine by reducing the compression ratio and altering the valve timing so that the powerplant accepts regular grades of fuel.

While an optional higher compression that requires premium fuel is available, **MOTOR TREND** chose to test the "economy" model to see if the "per gallon" saving had much effect on the performance that could be expected from a car of this size and price class.

THE CAR WE TESTED The pale yellow Dynamic 88 that awaited **MOTOR TREND's** road test staff was a two-door Scenic-Coupe with 371-cu.-in. ohv V8 engine, 8.75 to 1 compression

ratio, 240 hp (9.75 to 1, 260 hp optional), with single two-barrel carburetor, four-speed Hydra-Matic automatic transmission, 3.42 to 1 rear axle ratio (2.87 to 1 optional), single exhaust (dual optional), radio, heater, tinted glass front and rear, and white sidewall tires. Factory-recommended retail for this package is \$3831.04, f.o.b. Detroit—a lot of car for the money.

CITY DRIVING The rotary-valve Saginaw Roto-Matic power steering, with only four fingertip turns necessary to achieve maximum lock-to-lock is a real pleasure for city driving and the necessary parking in small spaces that usually goes with city use of a car. Linkage geometry allows the front wheels to be cut farther to the left than to the right, however, and if you make a U-turn to the right, you'll need about five more feet than when turning left.

Seating is good in relation to the wheel position, but shorter persons might find the wheel rim crossing their line of sight over the cowl unless they sit erect. There is plenty of power under the foot for traffic signal getaway and front and rear body limits are easy to see for squeezing through narrow traffic lanes. A flick of the finger on the shift quadrant to "S," or **SUPER**, gives practically instant shift down to third to provide good engine braking at low or high speed—great for saving brakes and reducing their need in speed-up and slow-down traffic that never quite comes to a complete halt.

ON THE HIGHWAY The agility and maneuverability of the Dynamic 88 in city traffic is surpassed only by its highway stability and comfort. Wind, engine and road noise are so low that it is easy to cruise in the high 80s without realizing it by sounds usually associated with such speeds. Steering is quick but without tendency to wander even on highly cam-

continued on page 74



by Charles Nerpel, Technical Editor

SEE CHARTS, NEXT PAGE



***What mpg will qualify
a big car for the
economy class? Would
Olds Dynamic 88 make it?
Here's what we found
when we took to the road...***

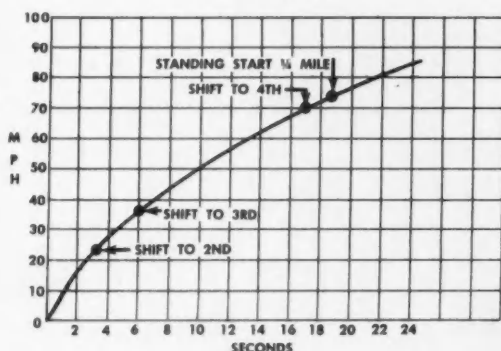
MT

ROAD TEST '60 OLDSMOBILE



Acceleration

0-45 mph 7.8 secs. 0-60 12.7
Quarter-mile 18.3 secs., 75 mph
30-50 4.8 45-60 4.9 50-80 14.4



Top Speed

Comfortable cruising From 50-90 mph
Maximum speed 100 mph

Stopping Distance

From 60 mph to standstill 198.0 ft.
(In 4.5 secs. with maximum of 0.78-G deceleration)
Stop after maximum acceleration to end of 1/4-mile 274.0 ft.
(In 5.1 secs. with maximum of 0.82-G deceleration)

Gas Mileage

Over-the-road averages	Mpg	Mph
2-lane highway, hills and curves	13.8	65
2-lane, 4-lane, level desert	13.8	82
2-lane, winding canyon and mountain roads	13.0	46
2-lane, 4-lane average open road	16.3	56
2-lane, average highway, heavy traffic	14.7	52
Overall average for 820-mile trip	14.3	60.2
City driving	11.5	—
Constant speed, level road fuel checks	20.0	30
	19.5	45
	16.6	60

Motor Trend VisiGraf

1. WINDSHIELD, VISION Compound-curved windshield is a masterpiece of forming, with no optical illusions at sides or top. Graduated tint relieves eyestrain from near-overhead glass curving into top, and for more protection from direct sun rays. Padded tilting-and-sliding visors can be adjusted to provide shade at either front or side. Wiper pattern is good but single speed is not adequate for real heavy splashes.

2. INSTRUMENT PANEL Two-spoke wheel gives uncluttered view of easy-to-read instrument panel and shift quadrant indicator. Dimmer provides good night vision on lowest setting and does not blind on brightest adjustment. Padded dash cuts daylight windshield reflections. Controls are by large knobs but heater adjustment is most convenient for driver, long reach for passenger.

3. STEERING Power steering offers lively ratio and a feel of the road. Wheel position is fairly high for good forward vision if shorter persons slouch a little. Positive fingertip control of the car is possible either at cruising speed or parking. Rotary valve control compensates for normal wear and retains "like-new" steering.

4. FRONT SEAT Plenty of room here for even the tallest and the widest, with lower, narrower driveline tunnel providing greater center passenger comfort with more legroom and better padding in this section of the seat. Rather high wheel rim does obstruct forward view of shorter drivers but multi-adjustment of power seat option cures this small fault nicely. Seat itself is firm, with good back support provided by shape rather than hard padding.

5. REAR SEAT Access to the rear seat on a 2-door of this type is not the "walk-in" operation of a 4-door. Some agility, bending and turning are required to get into the rear, the same coming out. Once in, however, there is good head-, hip- and legroom, the latter provided by deeply dished floor panels and unobstructed foot space under front seats; but that driveline hump will make the center rear seat passenger straddle it for enough legroom.

6. TRUNK There is ample luggage space (18.3 cu. ft.) with maximum usable floor area (51 x 36 ins.), due to side mounting of spare tire into rear of right wheel well, and a depth of 19 ins. in the center. Current trends toward blunt rear ends bring lower trunk openings well above tops of rear bumpers. It's not only a long way from trunk lip to ground (33 ins.) but there's a pretty good hoist over the lip itself to remove the spare or other heavy pieces from the luggage compartment. Shelf over rear axle housing allows long packages (5.4 ft.) to be carried with the decklid closed.

7. REAR SUSPENSION, AXLE Ride and handling qualities are excellent with simple solid axle and semi-elliptical leaf springs. Better shocks and weight distribution are probably greatest factors in stability of this type of rear suspension. Rather high (2.78:1) rear ratio indicates that, though detuned for regular fuel, the Olds 88 engine has plenty of torque to give good acceleration.

Car at a glance

Things we like

Fuel economy with regular
Good handling
Comfortable, quiet ride
Positive power steering
Solid construction
Easy access to engine
Four-speed automatic transmission

Things we don't like

High steering wheel position
Poor pattern and single speed of windshield wipers
Poor location of dimmer switch

8. DOORS Wide doors, a must for 2-door sedans because of the space needed for rear seat entry, are naturally heavy. They must open easily without getting out of hand if the car is tilted slightly, yet stay open if the degree of tilt is against the direction of opening. The Olds does a good job of providing well hung king-size hinges, positive yet low-friction holding latches, and some snubbing to keep the door from getting out of hand on grades. Armrests are well placed and comfortable. Latches are accessible without snagging clothing.

9. TRANSMISSION The reliable Hydra-Matic, with four well selected ratios, is a happy combination with the regular-fuel engine. Gearing is almost as important as horsepower in providing a smooth flow of power to the driving wheels. As shown in the acceleration curve, the automatic transmission in the Olds does an excellent job. Manual selections are easy to make and give instant response for that sudden punch of rapid acceleration or engine braking. The standard 3-speed manual transmission has a higher first gear than the automatic.

'60 Olds Dynamic 88



10. FRONT SUSPENSION, BRAKES Conventional independent front suspension, with inboard pivot points of the swinging arms angled to reduce braking dive, link-type stabilizer bar of $\frac{7}{8}$ -in. diameter, coil springs and tubular shocks—all improved this year—give the Olds good cornering and handling qualities. Brakes, though skimpy on the effective area available, are a tribute to the lining manufacturers as they stop well and repeatedly without fade. Eleven-inch cast-iron liners with centrifugally cast steel outer shell hold their shape under braking heat.

11. ENGINE The low-compression, regular-fuel engine in the test car is a real surprise. It gives all that one can ask for in a passenger car engine—smoothness, power to spare, and quiet operation on fuel that costs nearly five cents a gallon less than the premium grades required by some competitive cars of nearly the same performance. Olds has higher-compression engines available that really go if you decide that the figures resulting from this test are inadequate. We found, however, that there was always more power available than we ever needed.

SPECIFICATIONS OF TEST CAR

ENGINE: Pushrod-operated ohv V8. Bore 4.0 ins. Stroke 3.68 ins. Stroke/bore ratio 0.92:1. Compression ratio 8.75:1. Displacement 371 cu. ins. Single 2-bbl. carburetor. Single exhaust with cross-over (dual optional). Advertised bhp 240 @ 4400 rpm. Bhp per cu. in. 0.65. Max. torque 375 lbs.-ft. @ 2400 rpm.

TRANSMISSION: Hydra-Matic controlled coupling, 4-speed. Ratios 3.97:1, 2.55:1, 1.55:1, 1.00:1.

CHASSIS: Separate body on deep channel section side rail frame with X-member and 5 crossbars. Front suspension—Independent with anti-dive geometry, coil springs and tube hydraulic shocks. Rear suspension—Conventional live axle with semi-elliptic longitudinal leaf springs, tubular shocks, torque taken by springs. 8.50 x 14 tires. Rear axle ratio 2.87:1. Steering—Power-assisted rotary-valve Saginaw; overall ratio 21.8:1; turning diameter 43.0 ft. left, 46.25 ft. right;

4.0 turns lock-to-lock. Brakes—Drum hydraulics with riveted lining. Front shoes 12.0 x 2.5 ins. and 9.0 x 2.5 ins.; rear shoes 12.0 x 2.0 ins. and 9.0 x 2.0 ins. Total effective lining area 156.8 sq. ins. Weight/lining area ratio 70.6 sq. ins./ton.

DIMENSIONS: Wheelbase 123 ins., overall length 217.6, overall width 80.6, overall height 56.1; headroom—front 34.7, rear 33.9; legroom—front 45.0, rear 42.2; hiproom—front 65.4, rear 65.2. Tread—front and rear 61.0. Weight as tested 4440 lbs. (54% front, 46% rear). Weight/power ratio 18.5 lbs./hp.

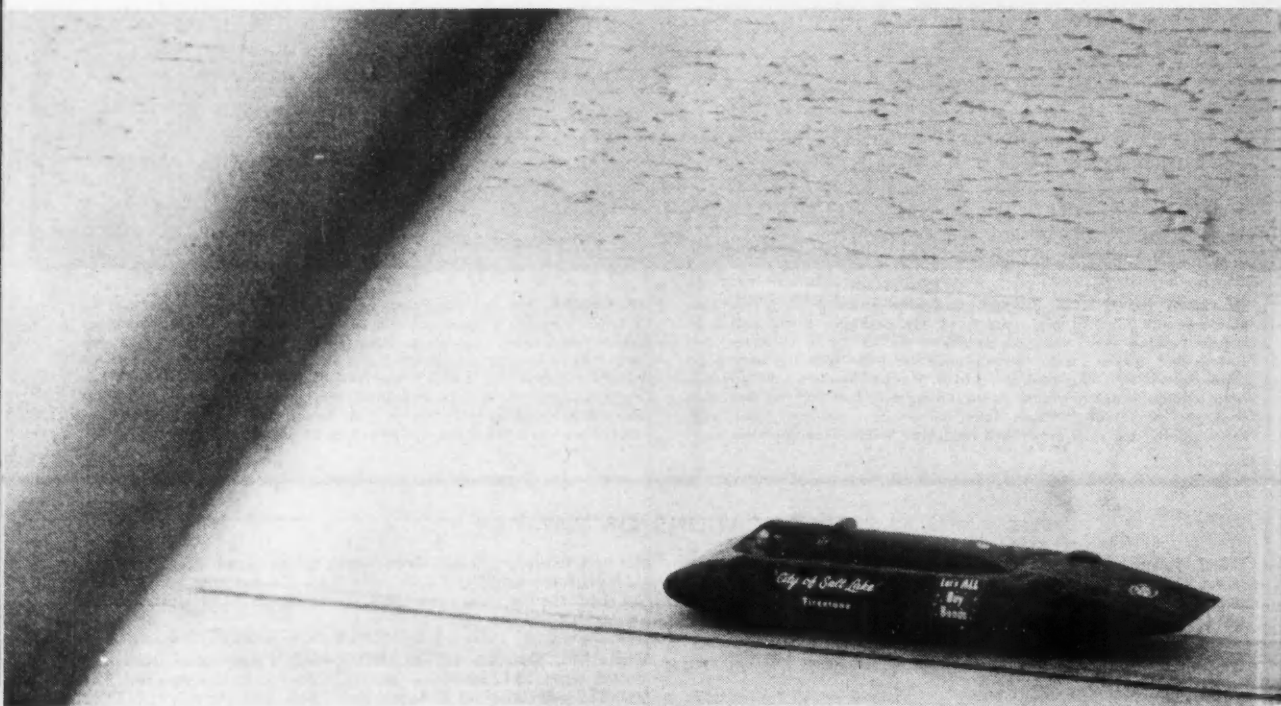
PRICE: Factory-suggested base, f.o.b. Detroit \$2956. As tested (approx. list) \$3831.

ACCESSORIES: (suggested retail price f.o.b. Detroit): Radio \$89, heater \$97, power steering \$108, power brakes \$43, Hydra-Matic \$231.



**WITH ONLY A \$2,000 CAR
BUILT IN BONNEVILLE'S BACK-
YARD, ATHOL GRAHAM HAS
ALREADY GONE 345 MPH AND
SET HIS SIGHTS ON 400!**

344.7
MILES PER HOUR



Framed by rough salt and a strut of the photographic plane, Athol Graham's "City of Salt Lake" flashes down the measured mile of the International Speed Course on first leg of a two-way run that averaged 344.7 mph.

ATHOL GRAHAM, a 35-year-old Salt Lake City garage owner, spent \$2000 and "a whale of a lot of time" since May, 1959 assembling truck and war surplus aircraft parts into a single-engined streamlined automobile with which he hopes to break the world's land speed record. In mid-December of 1959, after two previous test runs, Graham towed his car to the Bonneville Salt Flats, just 125 miles from where it was built, and proceeded to clock a two-way average of 344.70 mph! With a few modifications he hopes to make an attempt on the near-400-mph record mark of the late John Cobb—as soon as weather and salt conditions permit.

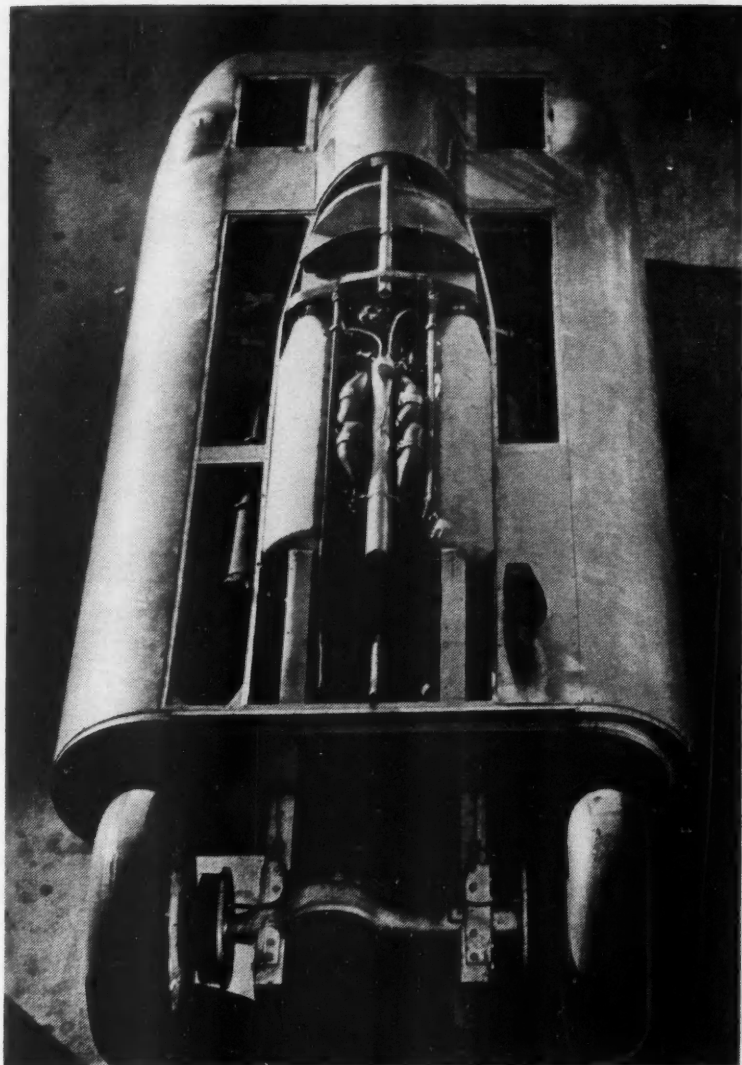
Fabricating a frame of 10-in. heavy dural channel with a solid-mounted '46 Lincoln front axle, spindles and brakes in front and a one-ton GMC truck axle in the rear, Graham felt he had the chassis and running gear to hold his powerplant, a modified Allison aircraft engine. Originally modified for use in a Gold Cup racing boat, the engine had domed 7.5 to 1 pistons and a 10-in. blower capable of 80 ins. of mercury at 4000 rpm.

A lot of work on a GMC diesel truck fluid drive to allow it to slip below 1200 rpm, made clutch and gearbox unnecessary. A short driveshaft and two U-joints join the fluid drive output with a special 1-to-1-ratio gear housing on the differential.

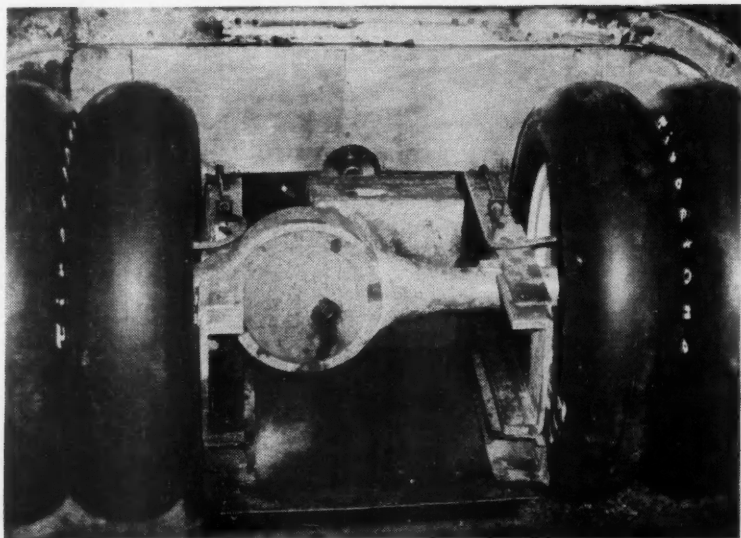
Two B-29 drop tanks and a P-51 canopy comprise the body, and Firestone Bonneville tires are mounted on the 18-in. truck wheels. Provision is made for duals on the rear if wheel slippage is too great.

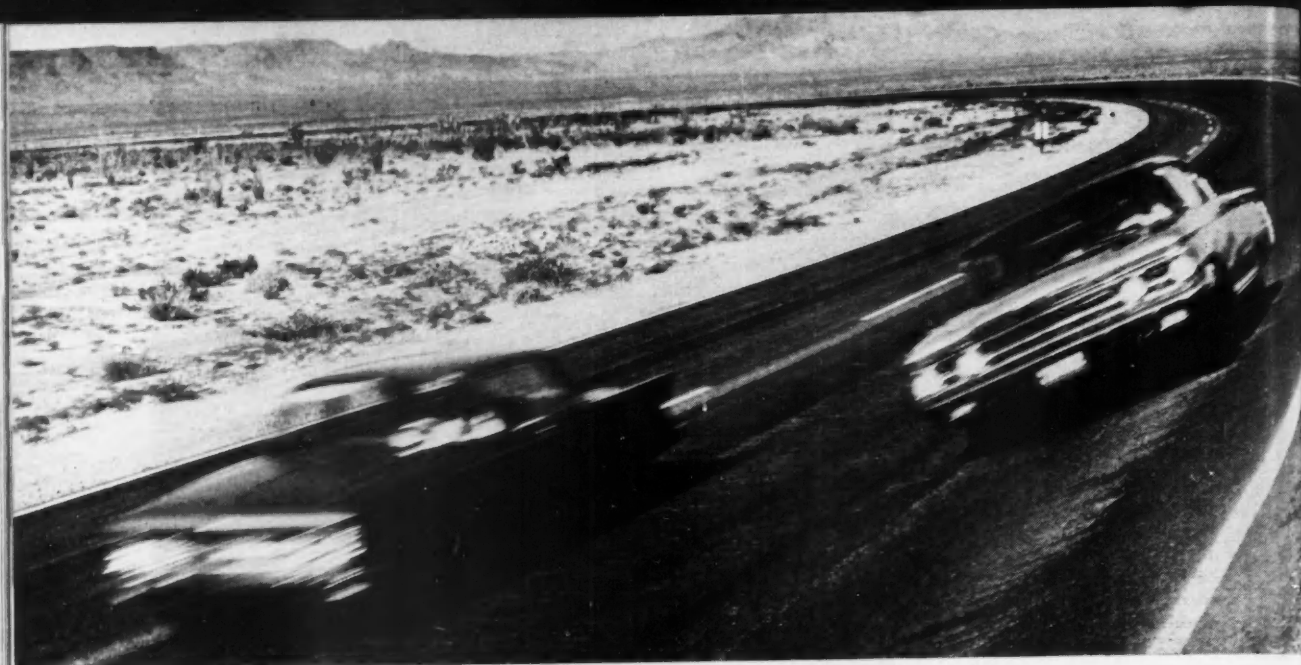
Graham has been using timing facilities of the Salt Lake Timing Association, but will have to secure the services of USAC to time him for an official world's record. Unhindered by parachutes, multi-engines or gearboxes, Graham's car is basically functional enough to hit 400 mph.

—Charles Nerpel



Modified GMC truck rear end shows box-like housing for 1:1 gear ratio. Dual tires can be mounted to reduce wheel slip at speed.





TALE OF A NEW COMET!

Little brother to the Merc . . .



Big brother to the Falcon



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MT Test Report by Walt Woron

WHERE DOES THE COMET FIT into the market? It's a question that doesn't have an immediately apparent answer. The Lincoln-Mercury Division (builders and marketers of this new "compact that isn't a compact") tells us that: "In designing the Comet, one of the chief aims was to produce an automobile that fits into the marketing approach of this division: to offer much more value for just a little more money."

What the engineers and designers have done is to provide a slightly longer car than the Falcon (by one foot), basing it almost entirely on that car, except for a few luxury features here and there, delivering it for a price that falls above the Falcon, but below the Ford Fairlane Six. To do this, they used the same basic unit body (with the same interior space), changed the floor pans, shoved the rear axle back $4\frac{1}{2}$ ins., pushed the trunk compartment back (and enlarged it), gave the car a different roofline, grille, front and rear fenders to identify it with Mercury, and used the same 90-hp overhead-valve six engine. (These, of course, are the *basic* changes; there were many other minor changes.) The "luxury features" include such things as foam-rubber-padded front seats and butyl-lined rear leaf springs, while contour seats, fairly plush upholstery materials, dual headlights and air conditioning are all available as extras.

What about performance? That's a story that doesn't seem to be there and one that Mercury, strangely, doesn't *seem* to be interested in. It was fairly obvious that this would be the case even before we ran acceleration and top-speed tests at the Ford Proving Ground at Kingman, Ariz. A car that weighs more than another one and still uses the same engine and drivetrain is bound to be slower.

We have a feeling that "performance kits" (like two- and three-carb manifolds) are going to be made available for this car—if not shortly after introduction time, then certainly within the months that follow. Builders close to Ford Motor Co. aren't toying around with V8 engines in Falcons for the sheer fun of it alone—and the Comet would seem to be slated next. (We'd still like to see an up-to-date version of the old V8-60 show up in the Comet.)

If you compare the actual figures of the Comet with automatic transmission against those of the stick-shift Falcon (Jan. '60 MT), you'll see that the Comet comes off second best. One example: the 0 to 60 mph time of the Comet was 24.0 vs. the Falcon's 21.0 secs. Part of this slower time is due to the slippage in the two-speed automatic and part to the added weight (2518 lbs.). Mercury engineers tried to compensate for this by using a lower rear axle (3.56 vs. the Falcon's standard 3.10), but this only resulted in less gas mileage.

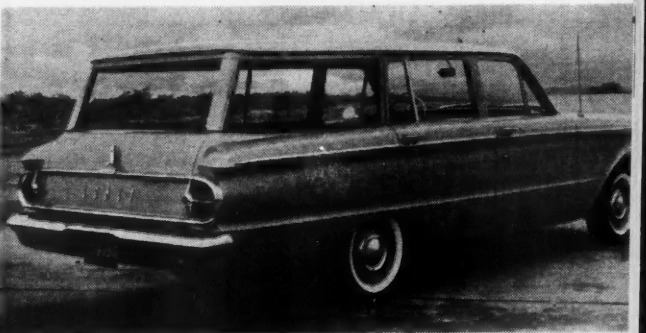
You still get good gas economy and you can use the cheaper regular gasolines. Your mileage won't be as good as the Falcon's (which is tops in the compact car field), but it'll be within a few miles per gallon in traffic or on the highway. If you're a conservative driver, you'll get anywhere from 20 to 25 mpg.

Most of the things we liked about the Falcon show up in the Comet: positive, easy steering on the road; good gas mileage; excellent engine accessibility; good brakes; nice detail fit of trim; and, an efficient, quiet heater. Two things have been improved: the ride, added luggage space. On the other hand, some of the things we did *not* like about the Falcon are also in the Comet: heavy steering in town and too many turns of the wheel, sensi-

continued on page 70

SEE CHARTS, NEXT PAGE

Testing Comet at Kingman revealed interesting things: three-door "show car," which they use to show difference between a two-door and a four-door, but practical in itself; similarity of Merc's front end to the Comet's (in the background of trunk shot); and shorter-wheelbase wagon with crank rear window.



MT TESTS THE '60 COMET

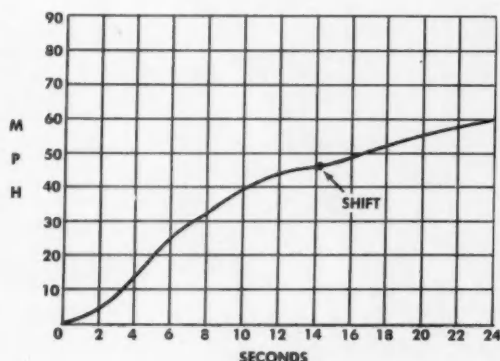


(Tests conducted by MT Staff at Ford Proving Ground)

Acceleration

0-45 mph 14.1 secs 0-60 24.0
(Quarter-mile times not taken)

30.50 9.4 45-60 9.9 50-80 32.5



Top Speed

Comfortable cruising From 50 to 70 mph

Maximum speed 84-90 mph

(84 mph taken on stick-shift wagon. Higher axle should improve this speed)

Stopping Distance

From 60 mph to standstill 195 ft.

Gas Mileage

	Mpg	Mph
City driving	20.8	—
Constant speed, level road fuel checks	30.2	30
	28.1	45
	26.5	60

(Figures based on less mileage to be expected with lower rear axle and added weight.)

Motor Trend VisiGraf

1. **ENGINE** Test car was fitted with same ohv, in-line six of 90 hp used in Falcon. Uses regular gas. Extremely good access to all points of engine: oil filter, distributor, plugs, coil, fuel pump (all on left side). Would be fairly easy to do your own work, but if you have it done, a minor tune-up should run about \$8.50, a major tune-up about \$16, with parts extra.

2. **INSTRUMENT PANEL** Though there is some similarity to the Falcon, different instruments are used: speedometer is centrally located, has large numbers that are easy to read; only gauges are fuel and temperature; battery charging rate and low oil pressure are indicated by red lights. Lights, wipers and heater controls are close by and labeled. Starts are easy, with ignition switch on left, choke available for use in cold weather. Glove box is small, but driver can reach it. Panel of test car was padded (optional), adding to safety and eliminating reflections.

3. **WINDSHIELD, VISION** Vision is good through the non-wrap-around windshield, but distortion shows up as a straight "fault line" on the side opposite to where you're sitting. Tint across the top is optional. It's easy to see all four fenders from the driver's seat. Vacuum-operated wipers (two-speed electrical are optional) sweep a wide expanse of glass, but leave blind spots at both sides. Car tested had optional padded visors.

4. **DOORS** Doors open wide (about 75 degrees), stay open in locked position on hills, close solidly. Getting in and out is easy, though (like the Falcon) to get out you have to raise your foot over the ledge. Armrests, door handles, cranks are convenient.

5. **REAR SEAT** Getting into the rear seat of a two-door is a tight squeeze if the front seat is all the way back. Edges of rear seat cushion in four-doors are cut off to allow easier entry. Headroom, legroom and hiproom are all good (same as Falcon), though more comfortable for two adults than three. There's footroom under front seat. Seats are comfortable, particularly so if you like them chair-high. Armrests are positioned comfortably.

6. **TRUNK** Counterweighted lid lifts easily. Though trunk volume is listed as 26 cu. ft., usable flat area is 40x40 ins., with height varying from 13 to 16 ins. There's also a 16x40-in. shelf between the wheel wells. Spare lies flat, taking up usable room. You have to lift luggage, groceries, what-have-you over a 10-in. lip at the rear. Trunk is cloth-covered. Only tools are bumper jack and lug wrench. 14-gal. gas tank lies flat under trunk floor, is filled through central filler. Filling it too full will result in gas sloshing.

7. **REAR SUSPENSION, AXLE** Suspension is conventional Hotchkiss design, with 50-in.-long, 5-leaf springs all separated by full-length butyl liners for quietness. Large spring bushings to support the springs minimize transfer of road noises inside. Standard axle, with or without automatic, is 3.56 to 1.

Car at a glance

Things we like

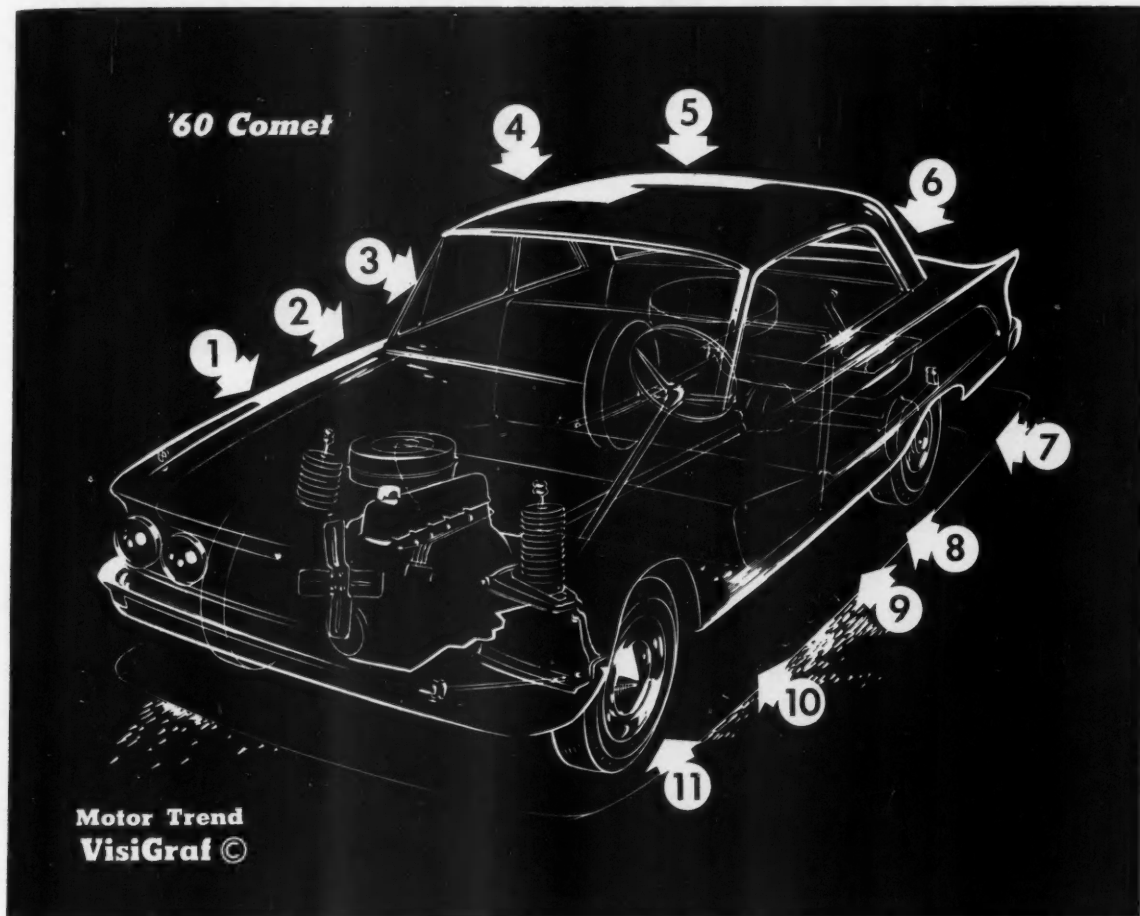
Easy steering on the road
Good gas mileage
Stopping ability
Engine accessibility
Comfortable ride
Detail fit of trim
Adequate luggage space

Things we don't like

Heavy steering in town;
too many turns
Non-synchromesh first gear
High weight/hp ratio
Sensitivity to crosswinds
Heavy hood, not counterbalanced
Low gas filler pipe position

8. **FRONT SEAT** Extra foam rubber padding in Comet makes seat more comfortable; optional rolled edge at top ("contour seats") gives comfortable support. Seat is adjusted manually, has four ins. adjustment (back and forth), no power option. Chair-height seats are comfortable for long drives. Three can sit abreast because shifting lever for standard transmission is on column. Headroom and legroom are very good.

9. **STEERING** The Comet's deep-dish, 17-in. wheel connects through the recirculating ball steering gear to the parallelogram-type linkage. Overall ratio (27 to 1) is high to permit "power steering feel." It's there on the road, but takes twice as much effort during parking, still is considerably lighter than big cars without power assist. Number of turns (4.6) lock-to-lock is higher than most cars.



10. **TRANSMISSION** Comet's Mercomatic automatic transmission (on test car) is two-speed, torque-converter type, with housings made of aluminum for lightness. Manual shift is synchromesh in second (1.75 ratio) and high. Low is non-synchro (3.29 ratio). Column shift lever is positioned comfortably, but it's hard to make a quick shift to second.

11. **FRONT SUSPENSION, BRAKES** Coils are mounted in towers above the upper A-arm, while lower arms are stamped channels, so wheel has "a controlled fore-and-aft motion." Tube shock is used inside coil. Anti-sway bars add more stability. Brakes are duo-servo type, have lots of lining area, are very resistant to fade.

SPECIFICATIONS OF TEST CAR

ENGINE: Pushrod-operated ohv in-line 6. Bore 3.50 ins. Stroke 2.50 ins. Stroke/bore ratio 0.715. Compression ratio 8.7:1. Displacement 144.3 cu. ins. Single-throat carburetor. Advertised bhp 90 @ 4200 rpm. Bhp per cu. in. 0.624. Max. torque 138 lbs.-ft. @ 2000 rpm.

TRANSMISSION: Standard, with 3-speed manual shift. Ratios 3.29:1, 1.75:1, 1.00:1. (Torque-converter-type automatic transmission optional.)

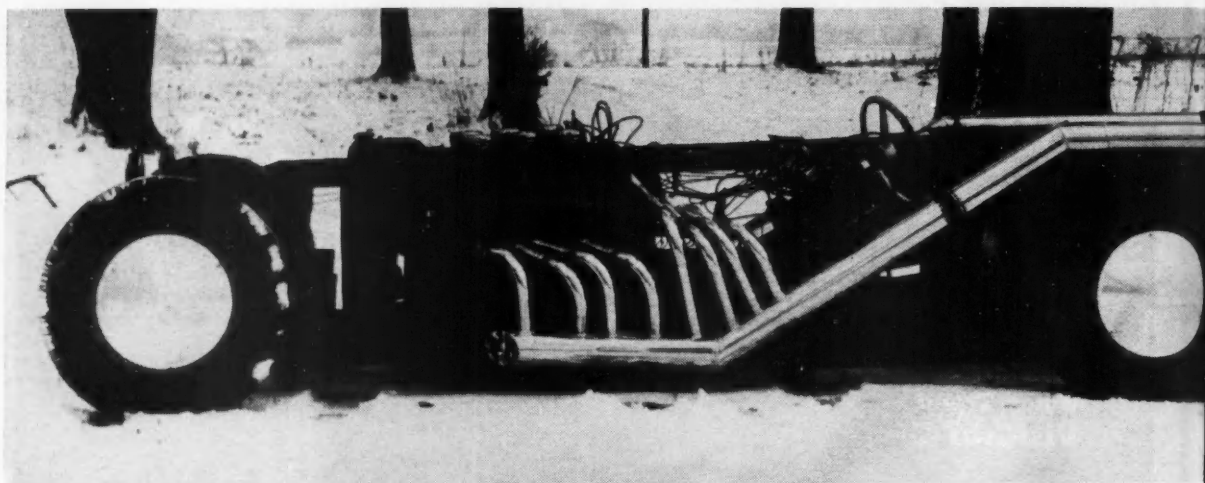
CHASSIS: Unit construction body and frame. Front suspension—Two lower control arms, upper A-frame with coil spring mounted above. Telescopic shocks, stabilizer

bar. Rear suspension—Hotchkiss drive with leaf springs, tubular shocks. Axle torque taken by springs. 6.00 x 13 tires. Rear axle ratio 3.56:1. Steering—Recirculating ball; overall ratio 27:1; turning diameter 39.3 ft.; 4.6 turns lock-to-lock. Brakes—Drum hydraulics, servo-actuated. Total drum area 226.24 sq. ins.

DIMENSIONS: Wheelbase 114 ins., overall length 194.9, overall width 70.4, overall height 54.5. Tread—front 55.0, rear 54.5. Weight 2518 lbs. Weight/power ratio 27 lbs./hp.

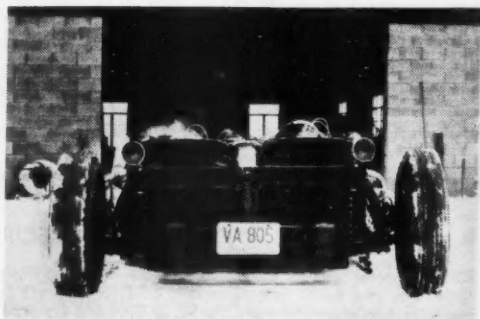
1280 -hp

Street Machine!



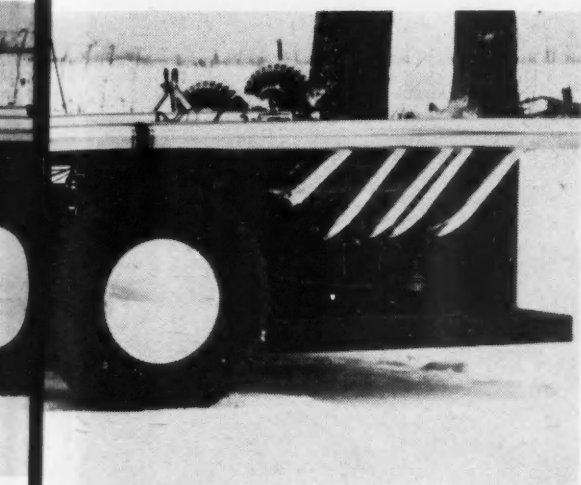
EXHAUST ARRANGEMENT OF WIRT'S MACHINE LOOKS LIKE A PIPE ORGAN, WITH PIPES FROM THE FRONT ENGINES JOINING THOSE FROM

PAUL WIRT, PIPELINE CONTRACTOR from Wooster, Ohio, has constructed a four-engine tandem-axle six-wheeler intended primarily as a pleasure car. Four 283-cu.-in Chevrolet engines, each equipped with three two-barrel carbs, solid valve lifters and speed cam, drive the four rear wheels through a pair of tandem axles with a total of four differentials. One pair of engines, mounted forward of the driver's compartment, drive the rearmost axle. Located behind the rear wheels, another pair of engines couple to the twin differentials of the forward rear axle. Transmission is by four Powerglide automatics; driving axles are split so that each engine drives but one wheel. Throttle synchronization posed some problems but once adjusted properly, a single accelerator pedal keeps all engines turning at the same rpm. Coil springs and six-wheel hydraulic brakes are used to suspend and stop the 5300-lb. vehicle. The body, still in design stage, will be a streamliner about 18.5 ft. in length.

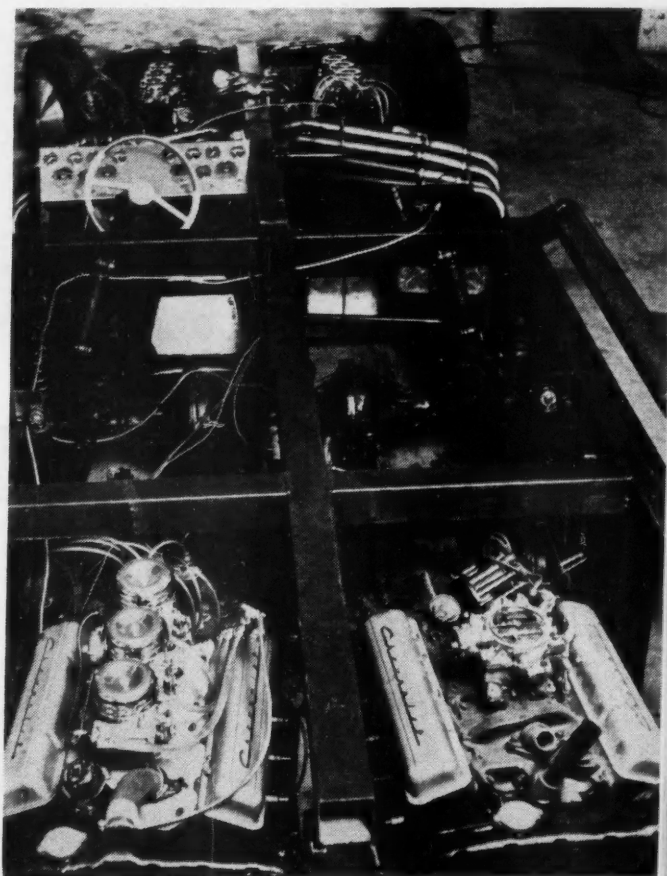
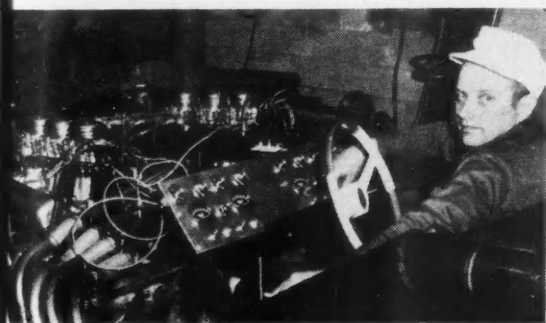




Owner-builder Paul Wirt
says: "While I estimate the top
speed of my car
at 200 mph, I intend to use it
strictly for pleasure . . ."

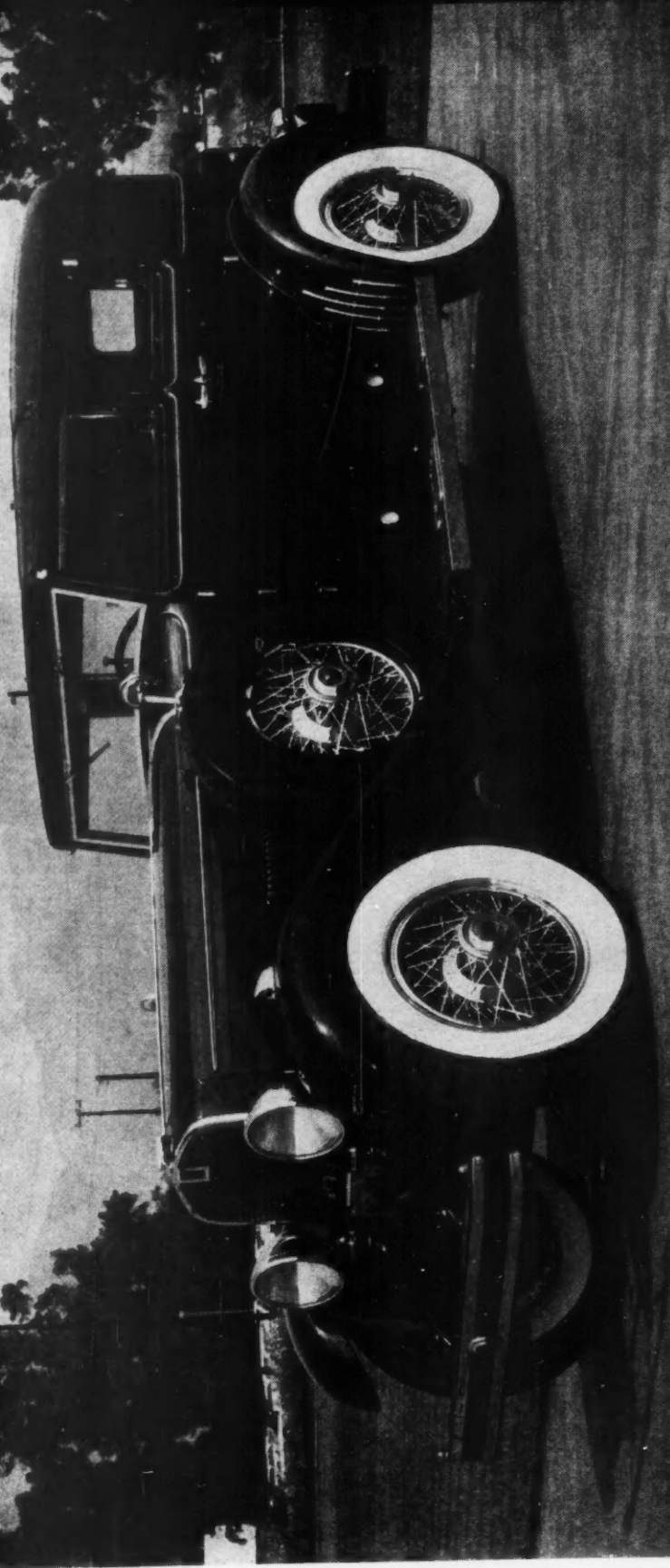


THE REAR, THEN SHOOTING OUT THE BACK (SEE TOP PHOTO).



Wirt sits at wheel of his imposing machine. Two forward engines
drive rearmost axle, rear engines drive "forward" rear axle.

CLASSIC of the MONTH



1930 BUICK TOWN CAR

PERHAPS THE MOST FAMOUS CLASSIC in America, this 1930 DuPont town car has won its fame not because of its design, construction or manufacturer, but by its restoration. Owned by Jack and Dorothy Nethercutt of Los Angeles, the car has been entered in three top competitive judgments, including the Classic Car Club of America Grand Classic—and has won highest honors each time.

It is considered one of the finest luxury cars ever made . . . "an obvious attempt by the manufacturer to make an American Rolls-Royce." Yet in a sense it was an "assembled" car, since it included many components purchased from other builders. No accurate figures are obtainable on the number of DuPonts actually built, but the most reliable estimates place it at 75.

Test-driving this revered classic was both a privilege and a revelation. Climbing into the driver's seat was a challenge: clearance between the front doorpost and seat was almost too small to pull our feet through; the steering wheel was too low for our knees and so close to the windshield that our knuckles would brush the glass if our grip was too loose; front seat cushions were shallow and hard. Obviously chauffeur comfort was not considered.

In striking contrast, the rear passenger compartment offered the ultimate in luxury—richly upholstered, softly padded seats and armrests; foot rests, lap robes and even a walking stick; roll-down window shades; and a microphone connected to a dash-mounted loudspeaker.

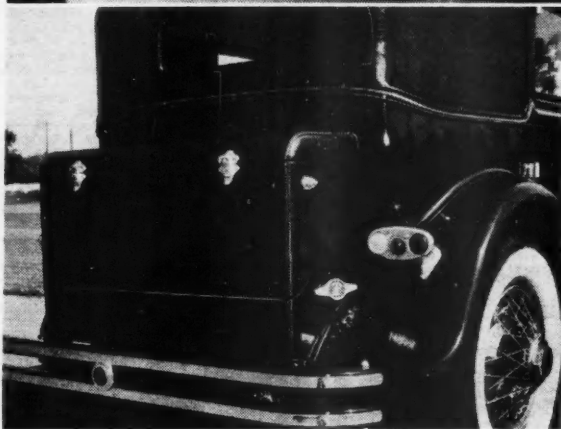
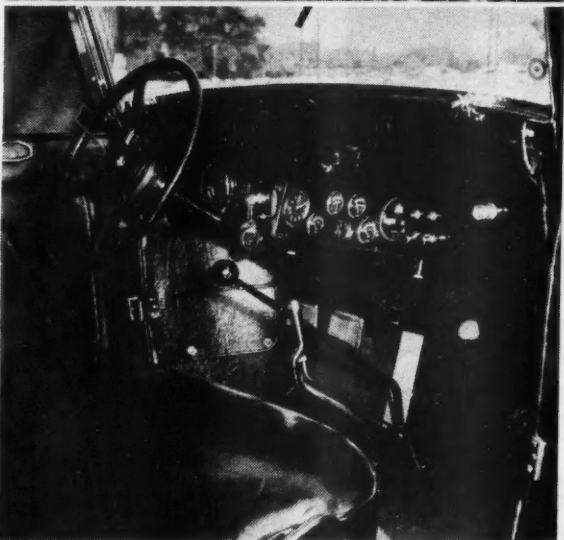
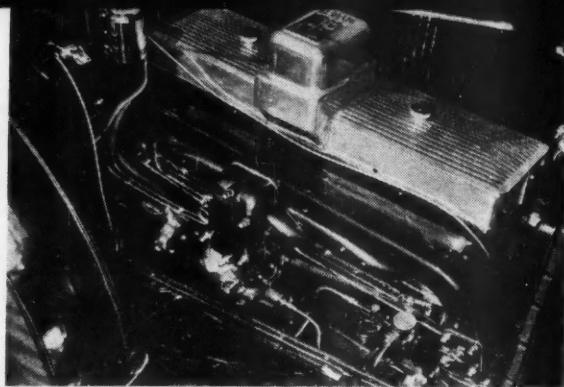
We turned the key, gave her some choke, mashed the floor-mounted starter button, and the starter lazily groaned into action. The engine turned slowly, but its speed climbed rapidly the instant it fired on its own. We pushed in the choke, adjusted the spark, dropped into low gear, and were on our way. The gear whine was frightening, but decreased as we kept shifting upward.

The car seemed sluggish in all gears, even after the engine had had a chance to warm up. Suddenly we realized that there were only 165 horses under that long hood to pull three tons of car! At cruising speed on the highway we were amazed at the high level of engine noise, and the loud rushing sound from the thirsty, air-hungry carburetor.

Even considering the car's great weight, the steering was very heavy. The high center of gravity caused pronounced heeling on turns, and we continually feared it would break loose. The ride—at least in the front seat—was choppy. We could feel slight road imperfections, but the long wheelbase effectively smoothed out the big ones.

Despite these shortcomings, the car fulfills its original purpose—a luxurious town car. DuPonts did not sell well because they were so expensive. Wealthy buyers preferred Rolls-Royce, Mercedes, Duesenberg. But if the manufacturer had paid a bit more attention to horsepower, body design and noise level, the DuPont might have become a formidable marque to reckon with.

The Continental engine, modified for DuPont use, glistens in its accessible compartment. A full complement of gauges and controls confronts the driver, while rear passengers rest plushly beneath a "beamed ceiling" lattice-type headliner. The small back window in the leather top restricts rear vision.



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Car enthusiasts have long recognized the popular Gabriel Hydrosbox as the finest standard shock absorber on the market. But what they really go for is the famous Gabriel Ajustomatic . . . the adjustable shock that lets you select the ride you want, for the roads you ride.

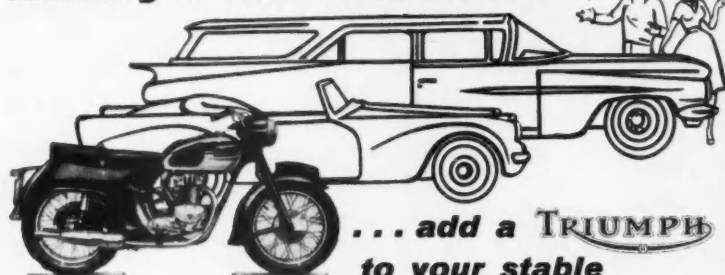
And, as if the Gabriel name alone weren't ample assurance of quality, the Ajustomatic proudly bears the Motor Trend Seal of Approval!



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SELL

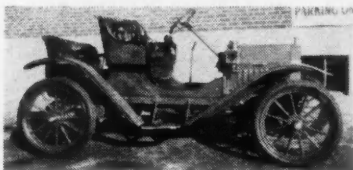
'33 LINCOLN sps. conv. with Murray body. Featured Saturday Evening Post article on classics. Like new—\$1500 firm. Hubert Ryan, 218 S. Wabash Ave., Chicago 4.

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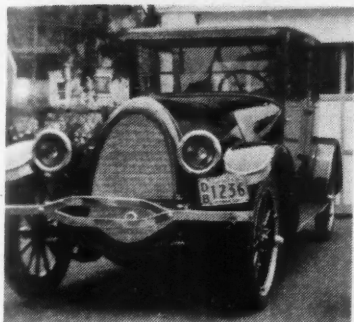
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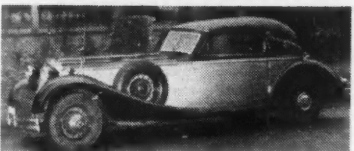
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41 LINCOLN Zephyr 4-dr. sed. V-12 engine, o.d., radio. Orig., good cond. \$350. Harvey Beaman, 864 S. Lincoln, Walnut, Calif. Phone LYcomine 5-1134.

27 ESSEX Super 6 4-dr. Exc. cond.; 27,000 actual mi. 1 owner; orig. except for major engine overhaul, new tires, battery & top. Best offer over \$2000. Bill Bertis, 2010 N. College, El Dorado, Ark.

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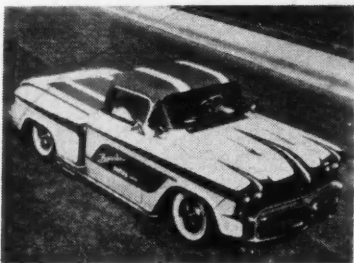
'38 PACKARD 12 conv. cpe. Exc. orig. cond.; 47,000 mi. Pictures & articles in previous MOTOR TREND & True's Automobile Yearbook. \$2000-cash. Harold N. Peterson, 1370 Gilpin St., Denver, Colo.

'37 PACKARD 12 formal sed. New paint & w/w's; engine completely rebuilt. A beautiful, powerful classic. Preserved body & interior; side-mounts. \$1400 cash. Harold N. Peterson, 1370 Gilpin St., Denver, Colo.

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NEW RUNNING BOARD—right side—for '36 Ford 5-window cpe. John Arpin, P. O. Box 114, Camp Hanford, Wash.

OWNERS MANUALS, shop manuals & sales catalogs. Any make 1900-25, classics '25-'35. Will buy them in any number. R. Pierce, 3517 Dollar Dr., Akron 19, Ohio.

CLASSIC AUTO CATALOGS . . . Paying top prices for sales catalogs of U. S. & European classics. Also MoToR (N.Y.) Annual Show editions '18 thru '40. Send listing, cond. & asking price. Sheldon J. Lewis, 61-33 213th St., Bayside, L. I., N. Y.

1959's CHAMPION DRIVER

LOOKS BACK AT HIS BIGGEST MOMENT



"It has to be Indianapolis," says Rodger Ward, last year's top racing driver. "The '500' is the one everybody wants to win. And to do it, everything on your car has to be just about perfect. It not only has to run right, it has to stop right, too. The importance of safe stops—and quick, safe slowdowns in those sudden traffic jams on the curves—is what makes me insist on Raybestos Brake Linings.

"At Indianapolis I demand linings so reliable that I can just take them for granted. You see, once the race starts, there are too many other matters to concentrate on. I just can't be bothered then worrying about brake safety. So I specify Raybestos—and that solves one problem anyway."

And A. J. Watson, builder and owner of the Leader Car Special that Rodger Ward drove to victory in the "500," sees eye to eye with Ward on his preference for Raybestos.

Raybestos Brake Linings (available for foreign as well as American cars) have been awarded the coveted Motor Trend magazine Seal of Approval.

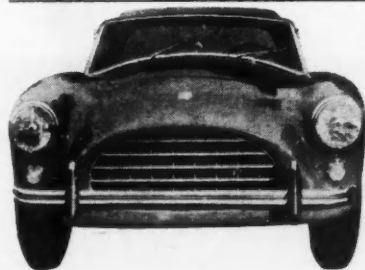


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There's a breathtaking thrill waiting for you!



Slip behind the wheel of the world's most beautiful sports car—the AC Aceca. Notice the custom interior appointments and the glove leather dual bucket seats. Touch the starter and hear the instant response of the 2-liter AC or the Bristol 6-cylinder O.H.V. engine. Hit the accelerator and you feel like you have wings. Into the corner effortlessly the full independent suspension and tubular frame take you through—without lean or roll.

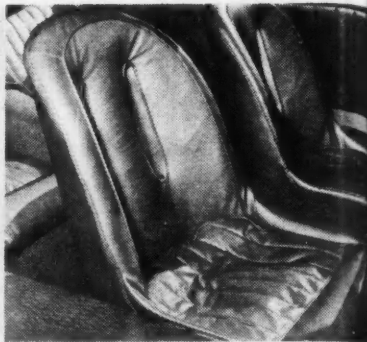
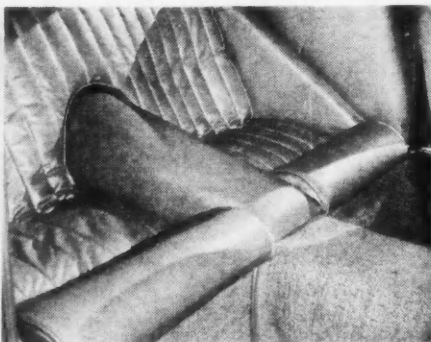
On the straight, open it up and watch the speedometer glide to 128 mph without effort. When the drive is over look over the clean aerodynamic lines of this custom-made car and you'll understand why English Autosport editor John Bolster said "... a superb quality car of highest performance ... it must go down in history as one of the few really great cars."



In roadster, coupe and soon in 4-seater coupe. For complete information, write your nearest AC distributor. Select dealerships available.



WORLD WIDE AUTOMOTIVE IMPORT, INC., 1968 S. Sepulveda, Los Angeles 25, California
EASTERN AC IMPORTS, Route 59, West Nyack, New York, Phone ELmwood 8-4800



Lines of the Peerless are clean and well proportioned, with no irrelevant ornamentation. There is a slight suggestion of tail fins at the rear, but the design is strictly functional. Trunk lid has a press-button snap lock and spring-loaded hinges. Twin fuel tanks are built into the body sills below the doors, leaving the trunk area free for the spare (placed

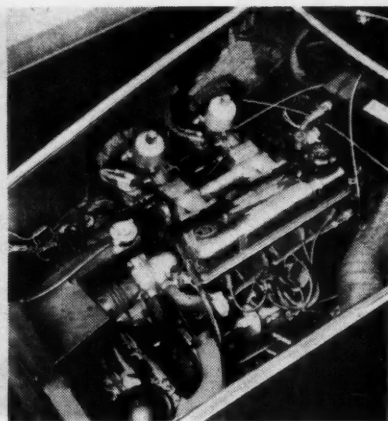
on the floor) and a small amount of luggage. The four separate seats are comfortably upholstered, with a fixed armrest between the rear pair. Front seats have deeply curved backrests to support the occupants firmly against side thrust; they are pierced with ventilation slots. The driver's window has a quick-action push-pull lever instead of the crank.

PEERLESS

Driverreport by Gordon Wilkins



An ambitious name for an ambitious car— a GT coupe with the attributes of a sportscar



With a fairly high body sill and low roof, you have to fold yourself to enter, but the driving position is excellent, with adequate headroom. Three-spoke wheel has a slim wooden rim. A short gearshift lever is mounted on the tunnel; alongside it is a racing-type, fly-off hand brake. Pedals are placed exactly as a sportscar driver expects to find them. The black, non-dazzle

instrument panel includes a large speedometer and tach in front of the driver, with smaller dials and recessed switches alongside. The engine used in the Peerless is the one used in Triumph TR-3s: a two-liter, 100-hp obv four. Other components from Triumph are the gearbox and front suspension units, all of which mold together into a desirable package.

THE PEERLESS G.T. is a compact low-built coupe only 50 ins. high which looks like a sportscar and handles like one. It has four seats—including rear seats in which adults can actually sit—and carries a useful amount of luggage in its trunk. In short, it's a good example of a practical Gran Turismo machine.

Engine, gearbox and front suspension are Triumph TR-3. The chassis is a light multi-tube structure with a de Dion rear axle carried on half-elliptic springs. Brakes are discs at front, drums at rear. Entire body is a one-piece moulding in resin-bonded fiberglass.

Steering is quick—about two turns lock-to-lock—but light and accurate when travelling fast. I found the Peerless a real pleasure to drive. It is well-balanced, stable and responsive, with brakes that seem well able to cope with the performance. At a curb weight of 2400 lbs., it is heavier than the Triumph TR-3 using the same engine. Thanks to the de Dion axle you can slam the throttle open from a standstill without wheelspin, to reach 60 mph in well under 11 secs.

The smooth shape of the closed body also gives it good acceleration in the higher speed ranges. Taking the tachometer needle around to 5000 showed an indicated 30 in first, 50 in second and 60 in overdrive second. Third and overdrive third make a fine combination for fast travel in different conditions. I saw an indicated 100 in overdrive third; this was undoubtedly optimistic, but it would be over 90 mph. Flat-out speed in overdrive top seems to be 106-108 mph. Overdrive, operating on the three upper ratios, is the Laycock-de Normanville type,

controlled by a switch on the instrument panel near the rim of the wheel. The switch glows red when overdrive is engaged.

When the Peerless first came out, one or two racing drivers, mindful of certain accidents with BRMs, were critical of the short driveshafts on the de Dion axle working through large angles of movement, on the grounds that seizure of the splines could have unfortunate results. Certainly this is a point where lubrication should not be neglected but I have not heard of any trouble in service. As half-elliptic springs and their shackles are not entirely rigid laterally, one can get slight shake on bumpy corners. The handling is distinctly better than could be expected from a conventional rigid axle on similar springs.

Generally the car feels taut and stable, even when cornering on the limit. Early models of the Peerless were roughly finished and intolerably noisy but finish has improved steadily and noise is now down to a normal level for this type of car. Faint ripples along the fenders and doors still announce this as a plastic body; no shake was evident when cornering fast on a race circuit despite the slim windshield pillars (which greatly help driving vision). Rigidity has been improved by the new method of moulding the whole body in one piece, including scuttle, instrument panel, rear seat pan and trunk. There is also a new grille, which was not fitted on the test car. Bigger, more robust bumpers will be needed for American city driving.

First impressions rate it as a fast, practical road car with competition possibilities, which offers real driving enjoyment. Production of about 25 per week means they'll be scarce, but a Peerless might be worth looking—or waiting—for.

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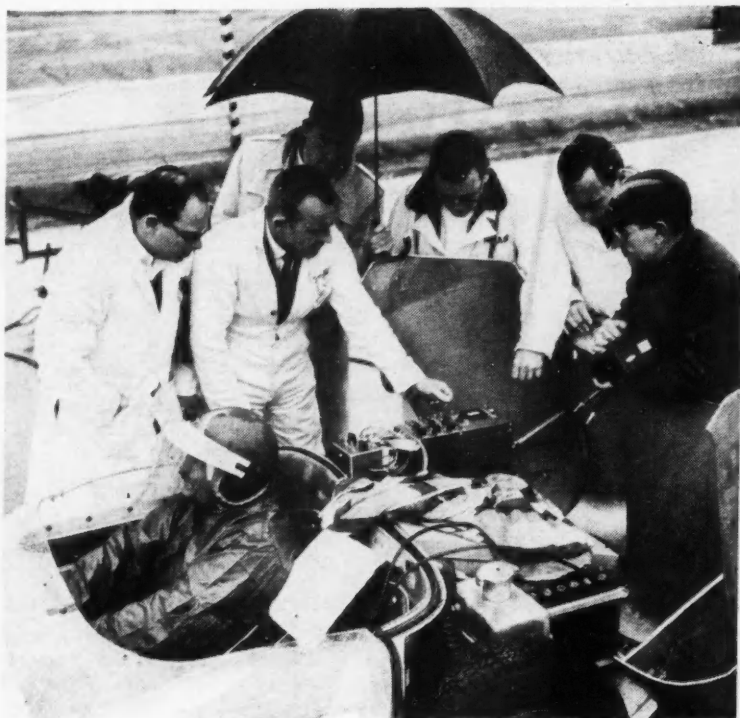
SEND 25c FOR NEW 1960 SURPRISE MONEY SAVER CATALOG, 40% BIGGER AND BETTER THAN EVER. EACH CATALOG CONTAINS \$1.00 FREE CERTIFICATE. NEXT ISSUE SENT FREE.

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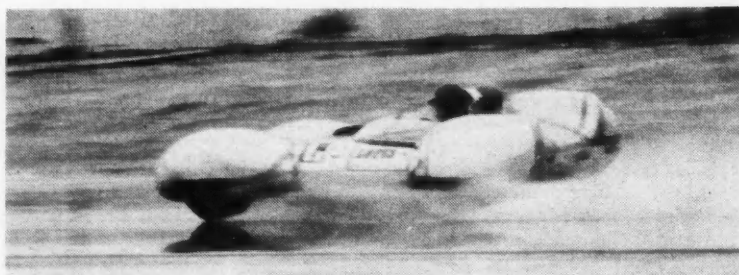
CITY STATE

HONEST CHARLEY SPEED SHOP, INC.
Box M8 1904
Chattanooga, Tenn.



First man in space

... a racing driver?



HOW DO YOU TEST a system designed to flash the physical and emotional conditions of spacemen back to earth without sending a man into space? One method, in a sportscar race, is shown on this page. The theory is that speeding around a race course approximates the prolonged tensions and danger of a soaring space capsule in a way that cannot be matched in the lab.

Biomedical instrumentation, currently under development by the Norair Division of Northrop Corp. in cooperation with Litton Industries and Ampex Corp., is designed to give instant readings of pulse, breathing, heart and brain reactions to ground-based flight surgeons.

Reactions and condition of the first astronaut into space will be vitally important—not only for his safety but for those who will follow him. Jay Chamberlain, Lotus car distributor and factory team driver, became the first guinea pig who wanted to find out "what makes me tick" and thereby further space research. To obtain the contrasting reactions of a novice, sportscar buff but non-race driver William B. Harrison volunteered to have the tiny electrodes taped on and to ride with Chamberlain around a rain-slick Riverside Raceway. First indications are that spacemen will have an advantage over testers—no danger of spin-outs.

Make your engine

SPARKLE!

HERE ARE A FEW ITEMS to help make your most personal possession something beautiful to look at and something you can be proud to show. True, we know that chroming an engine will not make it go any better, but somehow the pride of possession that radiates from the driver of an immaculate, customized mill makes the whole thing worth while. We've only scratched the surface. There are a lot of ideas and a lot of items we had to leave out because of lack of space, but you'll find your custom accessory supplier will always have the time to show you his stock, and talk over your needs.

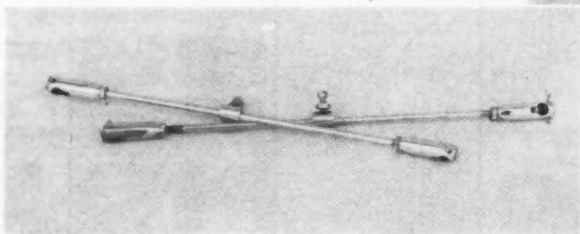
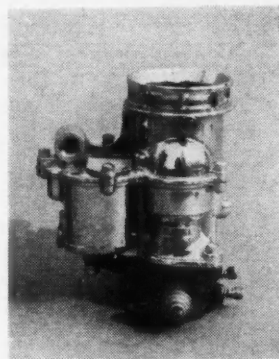
AIR CLEANER

For standard carbs, new and old.
Priced from \$1.79 to \$14.95.



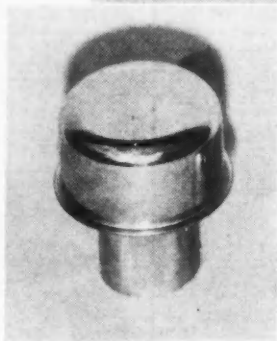
CARBURETOR

Add 20-30% to price of carburetor for chrome.



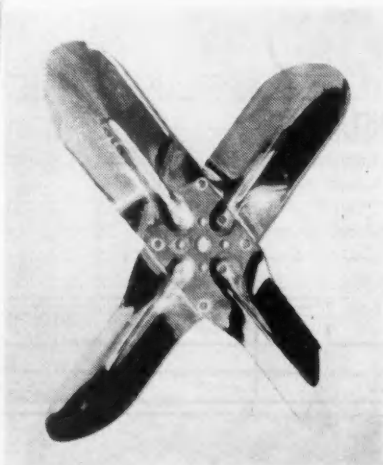
CARB LINKAGE

Progressive or direct for one to six pots. Priced from \$1.75.



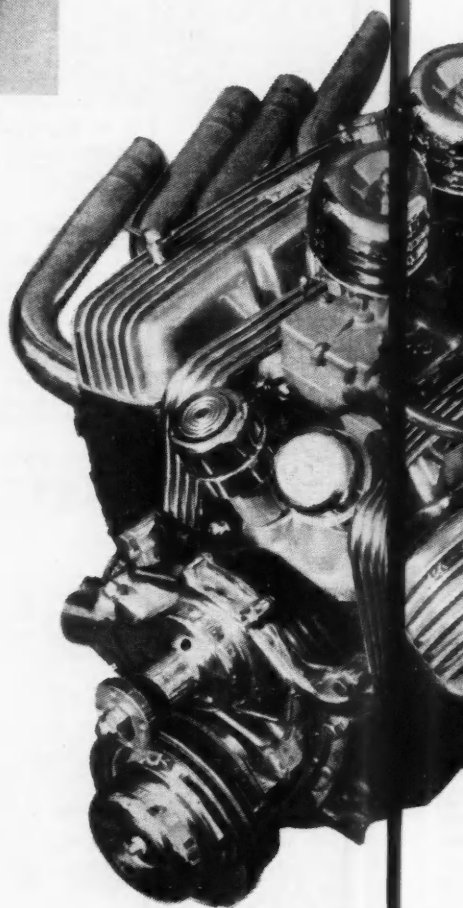
OIL BREATHER

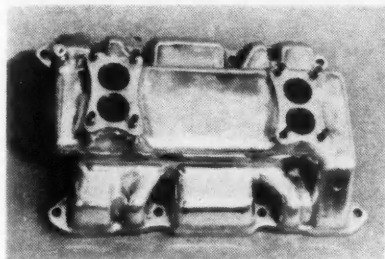
Metal strand element,
from \$1.19.



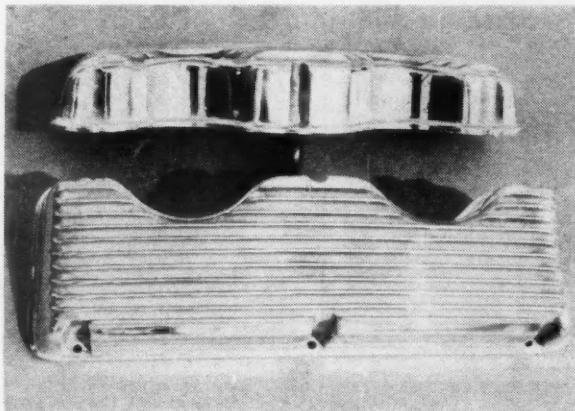
FAN

Stock metal, \$8 exchange.

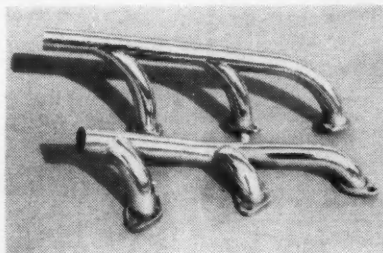




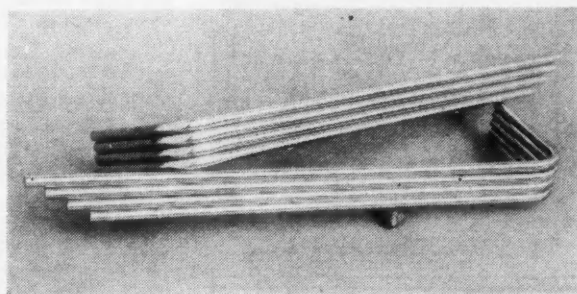
INTAKE MANIFOLD
Quads or triple two's in polished alloy, for flatheads on up. From \$35-\$80.



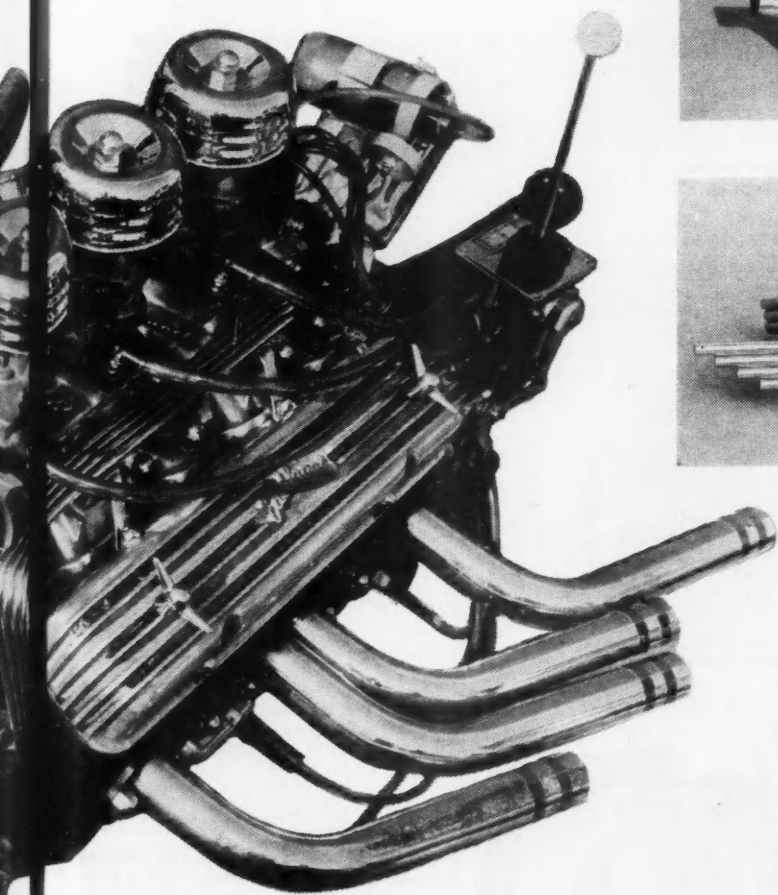
FINNED HEAD COVERS
Light alloy or chrome, priced from \$30-\$50.



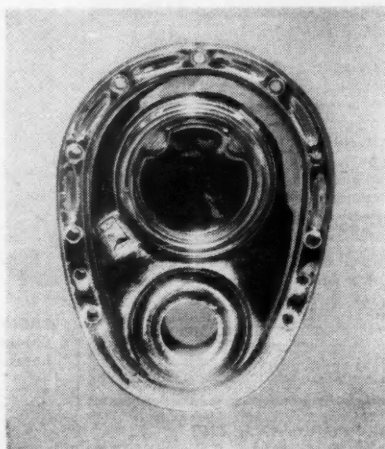
HEADERS
In sets for all V8s, price varies from model to model. Range about \$40.



HIGH-TENSION WIRE LOOMS
For sixes and eights, \$2.95 and \$4.95 per set.



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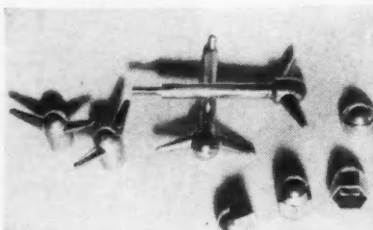
STATE _____

OCCUPATION _____

AGE _____

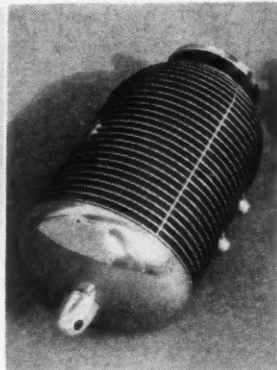
Husband's or wife's occupation _____

Make your engine SPARKLE!



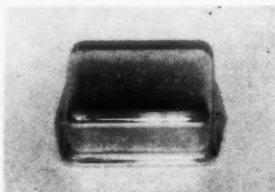
SLIP-ON WING NUTS, ACORNS

For all standard-size hex nuts and studs;
at 10c per acorn, \$1-\$1.95 per wing nut.



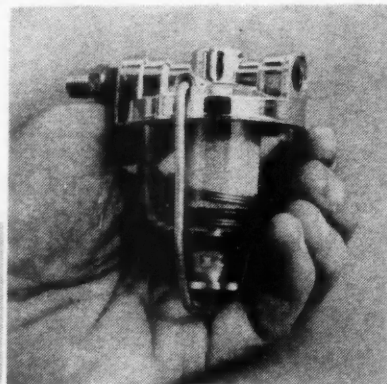
OIL FILTER-COOLER

In light alloy, finned, for by-pass system. Range from \$9.95-\$24.95.



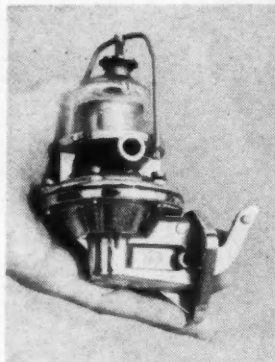
REGULATOR COVER

Chrome, at \$1.49.



FUEL FILTER

Bowl, filter, chromed, from \$3.25.



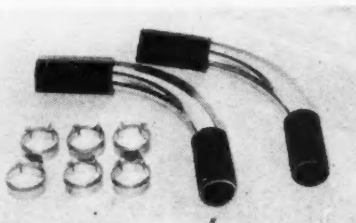
FUEL PUMP

New or rebuilt, from \$5.95.



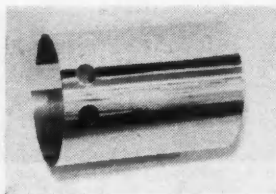
WATER OUTLET CASTING

Most models in stock,
about \$1.95 exchange.



RADIATOR HOSE KIT

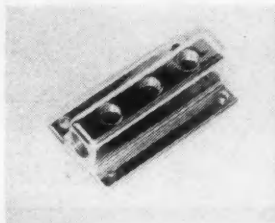
Chromed pipes and clamps with hoses. Priced from \$6.95.



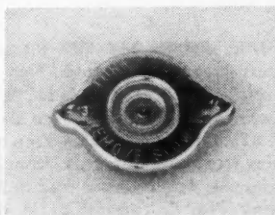
GENERATOR COVER
For standard generators, \$3.45.



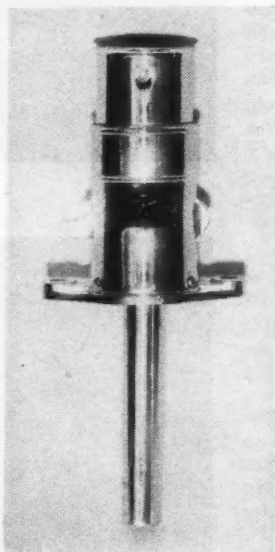
OIL FILTER CASE
Chrome case with element, \$24.95.



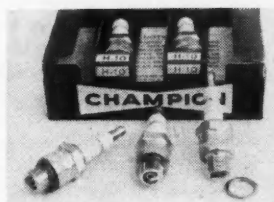
FUEL BLOCK
Chrome on brass, \$7.



RADIATOR CAP
Pressure or atmospheric, from \$1.49.



OIL BREATHER STAND
The flathead isn't dead yet. Price \$3.50 exchange.

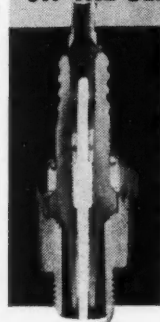


SPARK PLUGS
In several brands, from \$1.

These items and others too numerous to list can be obtained from many independent auto supply stores, or from mail order houses. Most national distributors have a catalog they'll send you for the asking. In some cases there is a very small charge. The items shown on these pages were photographed through the courtesy of the following:

Bell Auto Parts, Inc., 3633 Gage Ave., Bell, Calif.
California Custom Accessories, 6417 S. Western Ave., Los Angeles
Honest Charlie Speed Shop, Inc., P.O. Box 1904, Chattanooga, Tenn.
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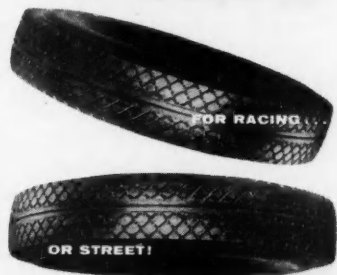


At last, one plug designed for stop-start city driving and high speed touring. The new NGK spark plug, with all copper center electrode delivers more power and better heat transfer. Improved design of sparking area eliminates fouling under normal conditions. You'll get better performance, easier starting, greater fuel economy and longer plug life. Try a set of advanced design NGK spark plugs for the best performance you've ever had. Send for free illustrated brochure.

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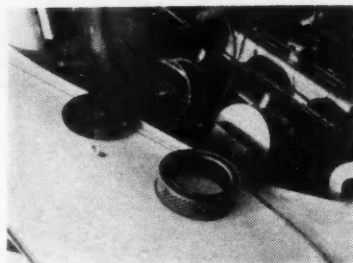
with mounting clamp

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Payment Enclosed C.O.D.

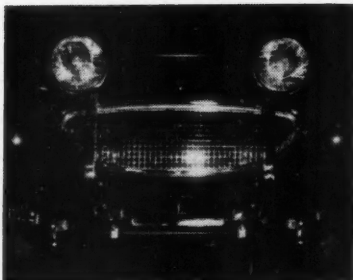
Name
Address
City & State
Zone

New PRODUCTS AND IDEAS

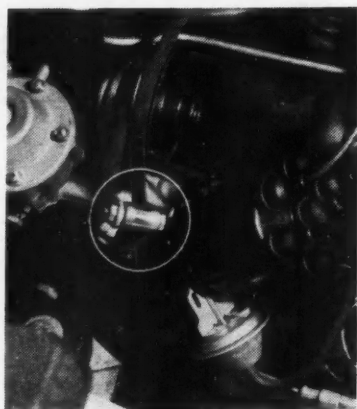
SU CARB OWNERS may well be concerned about the stock filters, which catch only the big hunks of dirt. The Navigator Co., 4545 Elmwood Rd., El Sobrante, Calif., has a filter that uses a Fram paper element with a pressure drop (loss by filtering) equivalent to about 40 ft. of altitude, and filtering efficiency of better than 99 per cent. Price: \$9 per unit.



STABILIZER, NERFING BAR KITS for most sportscars are available from Nor Cal Engineering Co., 2060 Portola St., Stockton, Calif. Models for Sprite are shown (price \$29.95, \$24.95). They keep road monsters from wiping out the front end and keep rear wheels on the road in hard cornering. Nor Cal specializes in nice-to-have items for most all imports. Send the make of your car and ask for catalog.



CORVAIR FAN BELTS can pop off, creating a problem for the man by the side of the road without generator or cooling. Fan Belt Retainer is marketed by Starbuck Engineering, 14753 Keswick St., Van Nuys, Calif., and operates only at high rpm. Attached to the idler, as the belt comes out to meet it, it causes the retainer to turn on its bearing surface as it keeps the belt on the pulley. Price: \$2.75.



UPHOLSTERY SHAMPOO and applicator in the same package are being made by Bissel, Inc., of Grand Rapids, Mich. The applicator has a squeeze bottle handle that pushes the cleaner through a sponge and brush applicator head. The shampoo is non-toxic, non-flammable, quick-drying, cleans all fibers and plastics. The 13-oz. bottle is ample for one big-car interior, at \$3.98 for the Car Master kit. We suggest you vacuum first.

IT'S EASY TO FORGET an old friend you haven't heard of for a while, so here's a word for Liquid Wrench, made by Solder Seal. It still soaks loose, rusted and frozen nuts and bolts as well as it ever did, and we were reminded of it when we had to remove the old license plates that had been in place for over a year. It's a mechanic's helper, and belongs in every home garage. Cost is about 25c, in accessory stores.

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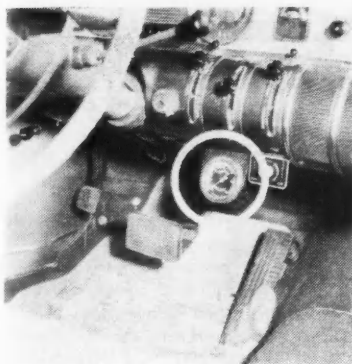
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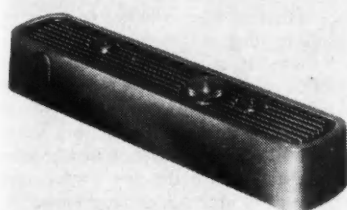
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MOTOR MINDER by Stewart-Warner is a vacuum gauge fitted for attractive instrument panel mounting. The gauge accurately registers engine vacuum, which indicates the tune of the engine and how heavily the driver is burning his fuel. It's an invaluable tune-up aid, and if you drive according to its dictates, you will save fuel. Price, with only basic fittings, is \$12.05.



WE'RE ONLY SHOWING you one, but Nor Cal Engineering (see above) also has a line of engine-beautifying items. Shown here is the polished alloy valve cover for the Austin-Healey. They also have them in chrome, and for most cars. Prices range from \$29.95 to \$39.95. All install with stock hold-down bolts and gaskets.

A FEW MONTHS AGO, a rumor made the circuit that a fresh approach to anti-freeze was on the way. Unlike most rumors, this one was confirmed—by Dow Chemical Co.

The new approach is a one-shot called Dowgard that lasts a whole year and protects the cooling system from overheating in summer as well as freezing in winter. The result is, in effect, a closed system than can be installed any time of the year.

Dowgard will be available only through service dealers, who will first prepare the system and then install a

100 per cent solution of the coolant. A blue tag on the radiator cap is a "do not disturb" for station attendants; the system need not be serviced for a year.

The coolant is a blend of ethylene glycol, diethylene glycol, balanced rust and corrosion inhibitors and super-pure treated water. It will operate from minus 40° to plus 240° F., enough to protect any system anywhere in winter, and to cool any engine in hottest summer. (Remember, a hot engine runs better and dissipates more heat.)

At this time, we do not know what the cost will be.

Products approved this month by MT



The products listed below have been awarded the **MOTOR TREND** Seal of Approval. Each has been inspected and tested against its advertising claims and for quality of material and workmanship.

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Navigator Co.
4545 Elmwood Rd.
El Sobrante, Calif.

Car Master Kit
Bissel, Inc.
Grand Rapids, Mich.

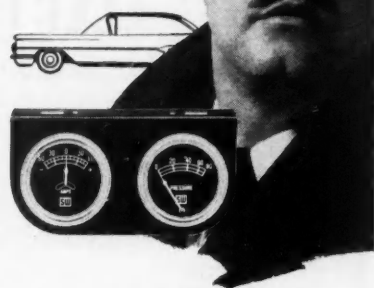
Motor Minder
Stewart-Warner Corp.
1840 Diversey Parkway
Chicago

Weber VW Stroker Kit
Weber Tool Co.
2990 Ramona Blvd.
Los Angeles 33

EMPI-Okrasa Kit for VW
European Motor Products, Inc.
P.O. Box 668-A
Riverside, Calif.

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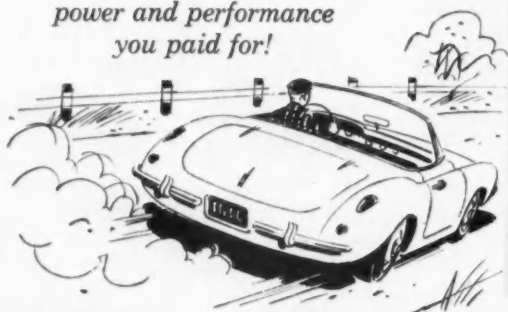
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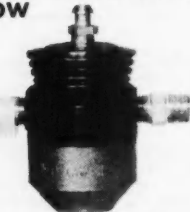
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Comet Test

continued from page 47

tivity to crosswinds and a non-synchromesh first gear.

The ride has been improved over the Falcon (though you wouldn't know this unless you first drove one, then the other) by lengthening the wheelbase and using rear leaf springs with large eye bushings to minimize the transfer of road noises into the car. These changes have definitely given the Comet a better ride than the Falcon, Corvair or Valiant.

Handling ease is better than the Falcon, moving it into a category with the Valiant. It still takes too many turns (4.6) to get into a parking spot, but this was done, so we're told by Mercury engineers, to give the public a steering ratio "... similar to that of a standardized car so that the new owner doesn't have to change his driving habits ...". So, the steering is slow (27 to 1 ratio), which doesn't seem to go with a compact car. The advantage is that the Comet doesn't need (and the factory doesn't offer) power steering.

On the road the steering lightens up and begins to feel power-assisted. The car tracks well, and once you get used to it, takes corners just about as good as any of the other compacts. You don't want to get into any tricky situations, though, like sliding through turns or passing in tight spots, because you don't have the power to pull you out of trouble.

What kind of future will the Comet have? Lincoln-Mercury Div. spokesmen say "a great one," based on the fact that "Our customers will range the spectrum of the car-buying public, for the Comet is an automobile that not only offers competitive economy, but a far superior ride for its class, and even more importantly, offers styling of cars costing twice as much. ... The Comet seems to have particular appeal to women. ..."

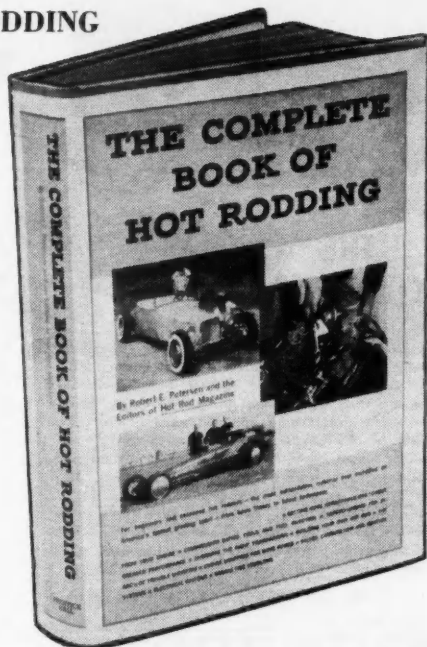
It would seem then, if you're one of the persons covered by these marketing surveys, that the Comet would be your car. And, as they say, what you would be getting is a car with good economy, the best ride in the compact car class and a car that might impress your girl friend or please your wife. It's not a performer, but we'll predict that it'll be made into one (with little sacrifice in economy), if not by the factory, then certainly by interested enthusiasts who'd like to see the Comet kick up its tail.

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● **THE HOT ROD STORY**—Learn how the sport of hot rodding actually began. Here is the history of its development, the obstacles which blocked its growth. This informative section also discusses the rise of organized hot rod activities, spearheaded by groups like the National Hot Rod Association. Especially interesting are stories of the early drag racing meets.

● **HOT RODDERS TACKLE THE WORLD'S ENGINES**—How veteran hot rod enthusiasts get more power. Covers such basics as the four-stroke engine cycle, cylinders, pistons, crankshafts, connecting rods, valves, camshafts and other engine fundamentals. The formula for increasing performance is also given and analyzed step-by-step. This chapter provides an invaluable checklist of primary facts.

● **THE TRUE FACTS ABOUT HORSEPOWER**—Torque and horsepower are ratings of the performance ability of engines and, therefore, of relative acceleration and speed capabilities of the cars in which they are installed. The average hot rodder uses the terms torque and horsepower constantly, yet is often unable to define them. In this chapter, you will learn how they're determined, applied to your car.

● **GETTING MORE HORSEPOWER FROM YOUR ENGINE**—Facts about boring and stroking (how to stroke a crank by the welding method, methods of production, stroker pistons and kits), porting—removing material from the walls of the intake and exhaust ports and passages, oversize valves, re-ground camshafts, valve springs (which strongly influence the way an engine runs), carburetion and the exhaust system.

● **YOUR ENGINE'S VALVES**—None of the internal parts in a high-performance engine have an easy job, but it's doubtful if any of them work harder or under more difficult conditions than the valves. Here's how to disassemble, inspect, recondition, adjust. Full information on servicing valves for better breathing by improving the adverse conditions under which they operate.

● **THE COMPLETE STORY OF ENGINE CARBURETION**—How to insure your engine's idling well and running smoothly with good torque output at low engine speeds. Single, dual, triple, quad carburetors.

The problems of progressive linkage. Maintenance and service for better starting, acceleration and economy. Also discusses special fuel pressure tanks, which give non-pulsating fuel flow.

● **YOUR ENGINE'S ELECTRICAL SYSTEM**—High-performance ignition, magnetos, distributors, coils, condensers, spark plugs, batteries, generators, regulators. How to get better performance through ignition conversions. Covers the various functions of the electrical system, with major emphasis on the job performed by the ignition system of firing the mixture in the cylinders at high pressure and RPM.

● **ENGINE BALANCING**—One of the most important steps in any engine rebuilding job is the complete rebalancing of the rotating and reciprocating parts of the engine's crankshaft and rod and piston assemblies. Here's how hot rodders who want top high performance go about putting the rotating parts of their engines in perfect balance. The step-by-step procedures as done by the experts.

● **FACTS ON HIGHER COMPRESSION**—One of an engine's most important features is its compression ratio, which has a definite influence on the torque and power an engine can develop. This section shows you how to get better performance through higher compression ratios. Of particular interest to hot rodders is the authoritative information given on high octane fuels.

● **THE PROS AND CONS OF FUEL INJECTION**—The latest developments in the field of fuel injection systems. Power and economy aspects versus carburetor-type fuel systems. The two basic types of passenger car fuel injection systems under present development—constant-flow and timed injection. Includes the comprehensive report of General Motors engineers on their work on the GM-Rochester fuel injector.

● **SUPERCHARGING FOR INCREASED PERFORMANCE**—Supercharging is a method of hopping-up an engine by providing a mechanical means to force greater quantities of fuel and air mixture into the engine's cylinders than the cylinders can induce normally. This chapter attempts to answer the question, "How much more power can you expect from supercharging?" Also discusses superchargers available.

● **ENGINE SWAPPING FOR MORE POWER**—Savings in time and money can be made by installing a bigger engine. But there are problems, including proper mounting and transmission hook-up. Given here are methods of installation which will help you surmount these difficulties. Swaps include stuffing a '54 Cadillac Eldorado engine into a coupe built from '32-'34 Ford components, also Olds V8s in '49-'53 Fords.

● **CHOOSING THE RIGHT TRANSMISSION**—Discusses transmissions for the various types of cars used by hot rodders: a passenger car used only for normal driving, a passenger car used for normal driving and drag racing, a passenger car used strictly for drag racing, a competition car used strictly for drag racing, a competition car used strictly for straightaway competition, etc.

● **BUILDING YOUR OWN HOT ROD**—Choosing the basic car. Chassis, body, suspension modifications. Building for street or competition, or both. Examples of some of the best: Lincoln-powered roadster with 1929 Ford Model A body; '32 Ford with '55 Chevy V8 engine; the Glass Slipper, world record-holding Class C (183 to 305 cubic inches) dragster; Masters Dragliner.

● **THE ABC'S OF TROUBLE SHOOTING**—Every engine malfunction problem is discussed in easy-to-understand detail: ignition system, battery and cables, ignition wiring, ignition distributor shaft, distributor cap and rotor, coil tower, coil lead, ignition distributor primary circuit, breaker points, ignition condenser, primary circuit wiring, distributor "pigtail" lead, distributor primary terminal, etc.

● **RACING TIRE PROBLEMS**—How to figure the proper width and diameter of a racing "slick" in relation to horsepower. How to get the best traction; the most service; the most safety. The five "musts" of bigtime competition: correct tread design; correct outside diameter in relationship to the gear ratio and engine rpm; correct air pressure; correct balance and weight; correct maintenance.

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Plymouth Test

continued from page 35

metric improvements toward reducing roll, sway and dip, are mounted to a unitized body/frame replacing the old heavy, deep, box-section frame. Heart of this hot one is a 361-cu.-in. ohv V8 engine with cross-tube tuned intake manifold drawing through two four-barrel carburetors and dual exhaust system. This package will cost you an extra \$270.10, which is only slightly more than the \$210.70 for TorqueFlite transmission. Basic recommended retail, f.o.b. Detroit, is \$2718. Add to this the \$480.80 for engine and automatic transmission options and the price totals \$3198.80. In the early part of the production year we take the test cars as they come, and this one was really loaded with extras, such as two-tone paint, whitewall tires, six-way power seat, power windows, power steering, power brakes, radio, heater, swivel seats, sport deck tire cover, padded visors, undercoating and foam cushions, bringing the grand total retail to \$4034.55.

CITY DRIVING Plymouth's quick steering, excellent visibility, and smooth, rapid acceleration provide agility and maneuverability that can make a trip to the market or downtown office just as easy and as much fun as a cross-country vacation drive. Isolation of the driver's seat and its separate padding and contour, including a higher seatback for better support at the shoulders, provide a good position for handling and a view of the front and rear extremities of the car that eases travel in narrow traffic lanes or crowded parking areas. The steering wheel, which requires only a fingertip touch to achieve lock-to-lock in 3 1/2 turns, is flattened at the top to provide unobstructed vision over the cowl, and similarly flattened on the bottom to allow more room between the seat and wheel rim. It is a rectangular steering wheel, unusual in appearance, practical in its application and requiring little or no "getting used to."

ON THE HIGHWAY A comfortable cruiser well above legal speed limits, the Fury holds the road well, even the sharply cambered paving, corners like a sports car, and is as quiet as a visiting dignitary's limousine. Driving position and all-around visibility can be likened to the cockpit of a deluxe transport, minus the array of instruments and controls, but providing easy access to those necessary for driving.

The left rear seat passenger will have trouble seeing forward around driver's higher-than-normal seatback, but his view of the road is far less important than the driver's comfort and driving position. Shocks are stiffer this year at no sacrifice to riding comfort but reduce bottoming on high-speed dips. Power steering requires little attention yet transmits enough front-wheel-to-road-surface reaction to give positive feel. Unit body/frame is well insulated from road and engine noises which were further reduced by the test car's optional underhood pad and body undercoating. With properly adjusted windwings, wind noise can be kept low enough for normal conversation at high cruising speeds.

HOW IT ACCELERATES The Fury's 2.93 to 1 rear axle ratio produced a very steep acceleration curve, with the car just really feeling the effects of its ram-tuned induction system near the quarter-mile mark. We were still in second gear 14 secs. from the standing start and indicating 78 mph. At this point the TorqueFlite shifted into high, the rear wheels chirped, and then the car really began to move, jumping seven mph in about two seconds, after a typical, not-too-crisp automatic transmission shift. As seen by the chart, the curve is steep and does not begin to flatten out rapidly at 85 mph.

The factory tells us there is a special-order 3.54 to 1 axle ratio option that should literally snap your head off in a quarter-mile acceleration run.

On the mile-long straight at Riverside International Raceways we were able to peg the speedometer at 120 mph (true speed 112 mph) before reaching the end of the mile's slight downhill section, approximately 1/3-mile. High-gear acceleration continued with the speedometer pegged, and we could only estimate the speed at 120 mph before shutting off for the turn at the end of the straight.

IN THE HILLS AND MOUNTAINS There are few hills in our modern highway system that pose any problems for the domestic V8s. Plymouth has power to spare for uphill passing or downright steep grade pulling. On the downhill side, engine braking is effective and as quick as the push of the button to downshift. Driving in the No. 2 position is wonderful for winding, up- and downhill mountain driving as the transmission will downshift at about 74 mph in this position, yet shift up through the gears without danger of over-revving the engine. Quick, positive steering and a stable, well-handling suspension make winding roads effortless, safe and fun to drive without throwing the rear passengers into a helpless pile.

DRIVING IN BAD WEATHER Visibility and wiper pattern are good under rainy conditions, although we are still old-fashioned enough to appreciate a control to adjust wiper speeds to the conditions. Plymouth offers one as an extra-cost option, but the test car was not so equipped. Defrosting and ventilation are adequate, with pushbutton controls convenient to the driver. All glass areas are well sealed and there were no leaks. Rain-slick surfaces can be treacherous, even at low speed if too much power is transmitted to the rear wheels by a heavy throttle foot. Weight distribution is good and the Plymouth is not squirrely under these conditions, but take it easy applying the power.

POOR ROAD CONDITIONS Stiffer shocks have improved handling without disturbing the ability of the Fury to take its share of rough road driving without making it an ordeal for the passengers. Ground clearance is similar to most



"... and when you want a compact car for knocking around town—PRESTO!"

domestic vehicles but take care not to overload the ample luggage compartment if off-pavement travel is planned, or the car will bottom or drag its rear overhang up abrupt grades.

GAS AND OIL MILEAGE The temptation to use the Fury's instant and rapid response to the throttle is hard to resist, with the result that rather high fuel consumption goes even higher. Plymouth makes no claims for economy for this engine and recommends premium fuels, although we ran a tankful of regular gas on part of the highway test and found performance good with no ping unless the engine was lugged down in high gear. We have no way of telling what the engine deposits would be in city driving with regular fuel, but it certainly would be worth the saving to use it on long, fairly level highway trips. A careful check of oil level before and after the

rather rugged treatment on the acceleration and handling course indicated no visible oil consumption. Highway and in-town driving required no oil addition after 1000 miles.

HOW IT STOPS Successive slowdowns to negotiate sharp corners after the high-speed straightaways of Riverside Raceways test course showed rapid recovery and little fade, although the brakes were used hard four times every 2½ minutes for about a quarter of an hour. Straight stops from 60 mph and after maximum ¼-mile acceleration were true and positive with a deceleration of 0.75-G, moderate pedal pressure, and little front-end dive.

HOW THE ACCESSORIES WORK Push-button control of small vacuum servo units give trouble-free operation to heating, ventilating and defrosting units. The radio is well mounted and is convenient for both driver and front seat passenger. Automatic swivel seats are a matter of personal choice, but their six-way power adjustment is a great asset to securing just the right driving position to suit the individual. The remote control side mirror adjusts just as easily with a dash-mounted "joy stick" control. At \$17.75 this option saves a lot of arm-stretching to effect proper settings. The engineering committee of the American Association of Motor Vehicle Administrators now recommends that all cars have outside mirrors, preferably adjustable from the inside. Padded sun visors, with center lock to keep them from rattling, can be swung to shield side light, and the windshield washer provides good volume of water where the wiper blade can make the most of its cleaning job. At no extra cost, Plymouth provides additional driving safety with wheels designed to keep the tire on the rim should a puncture occur.

IS IT A GOOD BUY? It is obvious from the price figures for the basic car, and the added cost of an unlimited number of available accessories, that a car in the medium-price class can be loaded with enough goodies to bring the cost up into a higher price bracket. The basic Plymouth, with SonoRamic engine, automatic transmission, power brakes and steering, is a lot of fast, comfortable, good-handling automobile. How much the attractive accessories offered are worth is entirely up to the individual preference of the buyer, and Plymouth offers them, as they do their engine and transmission options, so the customer can order a car suited to his tastes. Plymouth can and will offer tough sales competition for other Detroit manufacturers. /MT

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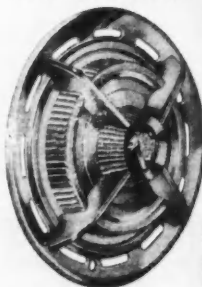
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Olds Road Test

continued from page 40

bered roads, and just enough road feel is transmitted to the wheel rim to give a confident feeling of positive control. A hard push on the throttle or a flick of the shifting lever to "S" anywhere from 35 to 70 mph, and the Hydra-Matic will shift from fourth to third, providing amazing acceleration for passing. Actual stop watch times on the highway showed a reduction of 4.8 secs. in the 50-to-80-mph times when in "S" or SUPER gear.

Acceleration of the regular-fuel Dynamic 88 compares favorably with that of other V8s of similar power-to-weight ratios whose compression ratios require use of premium gasolines. As seen by the chart, the acceleration is a smooth-flowing arc with no flat spots, due mainly to the well selected shift points and the four-speed transmission. On normal standing starts there is no difference in acceleration either in DRIVE or SUPER as the transmission always shifts to first gear when the car stops. Forced upshifts at 75 mph in SUPER and 49 mph in LOW settings prevent over-revving the engine.

IN THE HILLS AND MOUNTAINS There is plenty of power to the rear wheels to level most hills encountered, even rugged secondary mountain roads. Improvement in suspension and handling makes winding roads real fun as steering is quick, lean is minimized, and the sickening roll over sharp dips is a thing of the past. Best of all is the engine braking and consequent availability of an accelerating gear provided by SUPER or third gear selection, making it easier and more fun than downshifting a manual gearbox.

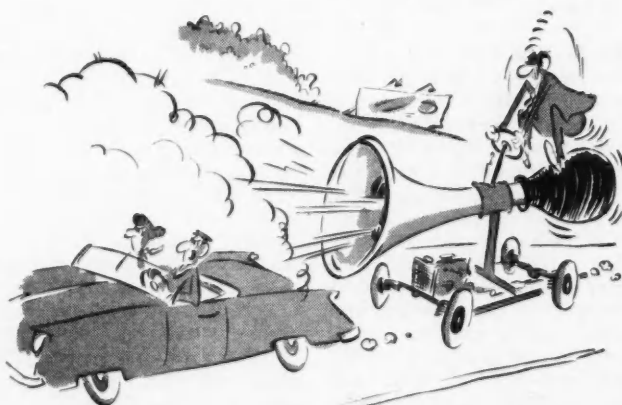
DRIVING IN BAD WEATHER Sealing

against rain around windows, windshield, doors and decklid is excellent as is the underbody in the rear trunk area. After many miles over very dusty gravel roads there was only a trace of the fine gray powder on luggage and test equipment stored there. Wiper pattern clears large area, but the single-speed electric drive is not fast enough for some conditions. Combined control starts washer-wiper cycle, or wiper can be operated separately. Better weight distribution, with a little less on the front wheels and a little more on the rear, gives improved rear-wheel traction over last year's model.

POOR ROAD CONDITIONS There just does not seem to be any road surface that disturbs the firm but comfortable ride of the Oldsmobile. Corduroy, gravel, dirt, or rough pavement really puts the suspension to work, but the body remains level; there is no sickening lurch, and no interior road noise. There is a narrow, winding canyon road in western Nevada that we use for tests, where the dips are so abrupt it is possible to drive the front wheels right off the ground. The Olds survived this treatment without protest and without bottoming front or rear as we "rode the roller coaster" at speeds of 50 to 55 mph.

GAS AND OIL MILEAGE The Oldsmobile engine, as with most cars, is designed to give reasonably good mileage in the highway cruising range of 60 to 65 mph. This is where we were able to get our best average driving mileage even though there were passing bursts of speed up to 75 mph. On the winding canyons where we were using third gear for engine braking and acceleration out of turns the fuel mileage naturally dropped. The steady-speed fuel bottle mileage is an indication of the fuel conservation possible with

continued on page 76



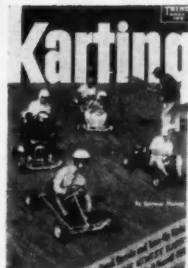
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Olds Road Test

continued from page 74

steady throttle settings on level roads at constant speeds.

The crankcase required one quart of oil in 1000 miles, but there was a stretch of driving through mountains using the engine for braking and driving a great deal in third gear where we used a quart of oil in 500 miles. Part of this mileage was included in the acceleration tests on the dragstrip. Only regular grades of gasoline, Flying A regular, were used for the test. It is possible to make the engine ping if it is lugged down without depressing the throttle far enough to cause the gearbox to downshift.

HOW IT STOPS Better weight distribution and anti-dive geometry allow the rear brakes to do more of their share of stopping which the Olds does quite well despite a rather skimpy 156.8-sq.-in. effective lining area for a car weighing over two tons. Increased pressure possible with power-assisted pedal is the answer, and the drum shape and air path over it allow enough heat dissipation for rapid recovery after hard use. Stopping a car of this weight from 60 mph in less than 200 ft. without locking the wheels and with light pedal pressure indicates enough brake area for normal use.

HOW THE ACCESSORIES WORK The major extra-cost items, power steering, power brakes and the Hydra-Matic, all work very well as previously described. The heater-defroster is an excellent piece of compact and efficient equipment that works well and is easily controlled from a panel to the right of the steering column.

The sun visors are designed to slide easily along their mounting bar, making it convenient to block blinding rays from areas not normally covered by the visors. A light inside the rear decklid gives good illumination of the luggage compartment for loading or unloading at night. Radio is good, and installation is convenient to both passenger and driver.

IS IT A GOOD BUY? The factory-suggested base price of the test car is \$2956, plus \$875 worth of accessories that included the power equipment. This still keeps the factory cost below \$4000, which is not too bad for a car of this quality, performance, prestige and resale value. Refinements and improvements rather than major changes make the 1960 Oldsmobile Dynamic 88 a far superior car to last year's model and a real competitor in this price and size class for the coming year.

/MT

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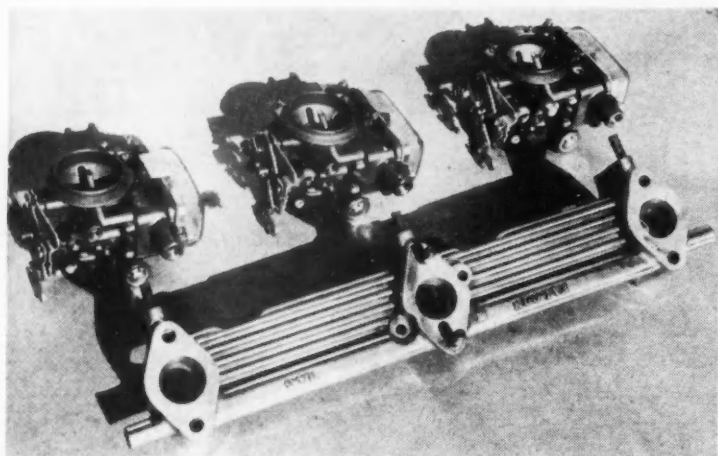
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MOTOR TREND/MARCH 1960 77



Two-throat carburetors have special adapters for bolting to modified manifold.

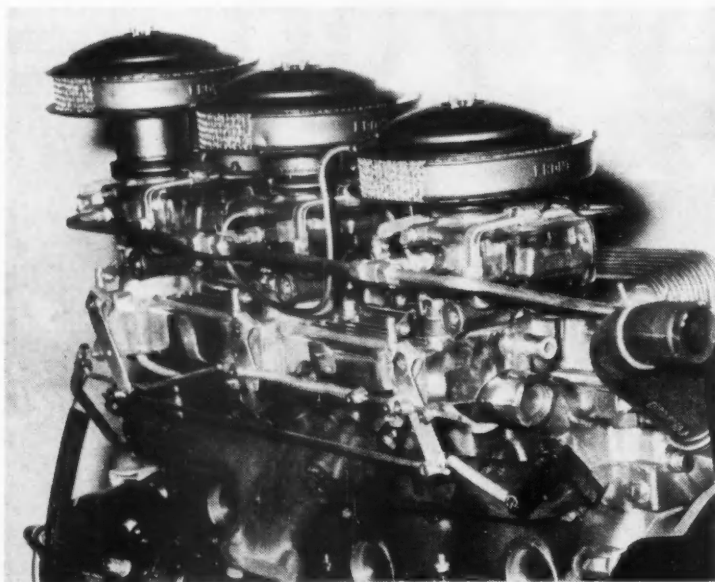
More Fire for the Falcon!

A FACTORY-ENGINEERED power kit for the Ford Falcon is now available that will increase engine output from the present 90 hp to between 130 and 140.

Thoroughly tested by Bill Stroppe and his team at Daytona, the kit consists of three two-barrel carburetors, heavy valve springs, special cam, and requires milling the head .050-in. to raise compression to 9.6 to 1. In addition, three optional rear-end gear

ratios are offered—3.10 to 1, 3.56 to 1, and 3.89 to 1.

Ford engineers have developed a clever way of mounting the extra carbs without installing a completely new intake/exhaust manifold unit by hole-sawing two new openings in the stock log-type intake. The carburetors have special clamp-on adapters and seals for accurate and rigid mounting over the new intake holes. As of presstime, no prices had been announced for the kit.



Air cleaners are staggered so rear one can clear angled firewall stiffeners.

Compacts

continued from page 31

finished in third and fourth spots, with a Volvo in for fifth. Due to their many pit stops, the best that Corvair could salvage was sixth and seventh. Actually, the Corvairs were not fully race-prepared. Had they utilized the more rugged racing tire rather than a "street" tire the results might well have been altered.

The small car's durability was well proven. Aside from the three rollovers, all entries went the distance in the 23-car starting field. (A DKW, another Volkswagen and a Riley completed the top 10 finishers.)

The demanding 5.2-mi. airport/road circuit at Sebring, Fla. hosted the second compact car race (preceding the Grand Prix main event) on Saturday, Dec. 12, 1959. This was a two-hour struggle, with 27 machines contesting. All five U.S. makes were represented, with 11 imports spicing the cake. SCCA Champion Walt Hansgen, in his very potent Cunningham-entered 3.4 British Jaguar led all the way, winning the event with a 78-mph average. Only the V8-powered Larks were able to challenge, and it looked, for a time, as though Hansgen might be taken by Curtis Turner's Lark. Turner blew a tire in the final minutes of the race and came in for second on the rim, ahead of Ed Crawford, who also drove a Cunningham 3.4 Jag. Glen "Fireball" Roberts brought in another V8 Lark for fourth, and Lime Rock winner Art Riley tooled his reliable Volvo into the number five position.

U.S. driving champ Rodger Ward was doing very well in one of the three team Corvairs when the engine seized, sending him to the dead-car park. Ed Hugus brought his Corvair into sixth ahead of another Volvo, and the lone Falcon entry (driven by plucky Denise McCluggage) took eighth. A Valiant was ninth, with the final Corvair, in the capable hands of George Constantine, in to round out the top 10. (Constantine was delayed when a broken fan belt necessitated a pit stop.)

Although their tire problems seemed to be licked at Sebring, the Corvairs were no match for the superfast Jags and big-engined Larks. However, Hugus finished a full lap ahead of the Falcon and Valiant (another Valiant was 12th, the lone Rambler entry 15th), exacting a sweet Corvair revenge for their Continental Divide fiasco. Only three cars failed to finish at Sebring: Ward's Corvair, a Fiat and a Lark—demonstrating the toughness of the little machines.

The races at Daytona should prove to

be even more closely matched than those run at Denver or Sebring. Strict rules will be in effect, limiting engine size to a maximum piston displacement of 200 cu. ins., and placing a top f.o.b. factory price of \$2500 on the competing cars—thus eliminating the \$4800 Jaguars, evening out the field.

The compacts showed up well in another type of competition last season: prior to Denver and Sebring the first American International Rally took place in mid-October and Rambler again won top honors. Behind the wheel of a Rambler station wagon, Les Scott and Ted Sparks guided the machine over the 3300-mi. four-day route to win a purse amounting to almost \$2800. Other compacts among the top 10 included a Fiat (third), a Citroën (fifth) and a factory-entered Corvair (eighth). Another Corvair finished in 11th position.

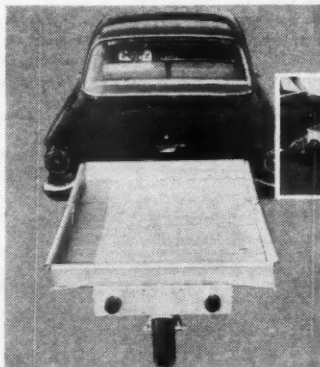
U.S. compacts are now big business (Detroit plans to roll 515,000 of them off the assembly lines during the first quarter of 1960). At least five more models will be in the picture by '61: Ford's new Comet, and compact versions of the Buick, Oldsmobile, Pontiac and Dodge. American Motors president George Romney, a strong booster of the small car, confidently predicts that "in three to four years compacts and imports will take up half the U.S. market."

Just how well are American compacts selling against foreign imports? Prior to October of last year the imports had the edge in total sales—but by the end of October sales records showed 70,468 U.S. compacts sold, against 51,923 imports. (And this year Detroit plans to ship 40,000 compact cars overseas.)

The entire automobile industry, as well as the buying public, will be carefully watching the progress of the compacts. And just how well they do—one model against another in strictly-governed production car competition—may have a great deal to do with future development. As with Corvette, the factories will eventually list certain speed equipment as optional. Therefore, the compacts will continue to improve, with regard to performance and roadability—and this cannot help but be reflected in world-wide automotive output.

The compact cars of tomorrow will be a better, faster, safer breed, because they are racing today.

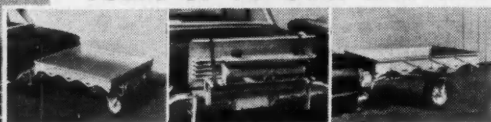
Report from Sebring (Feb. issue), filed by telephone just after the race in order to meet deadline, stated one of the Volvos blew a clutch and failed to finish. Revised reports showed three Volvos started and finished, winning the first three places in their class. Apologies and congratulations.



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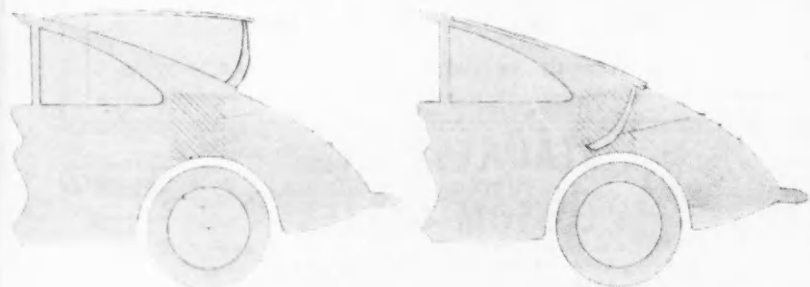
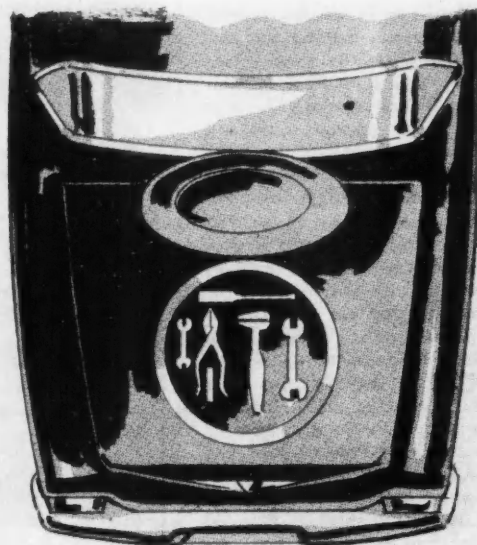
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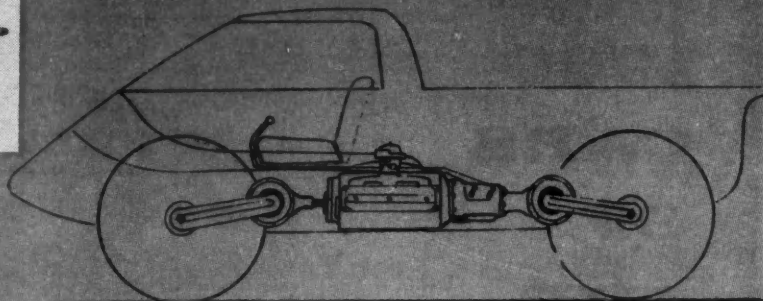
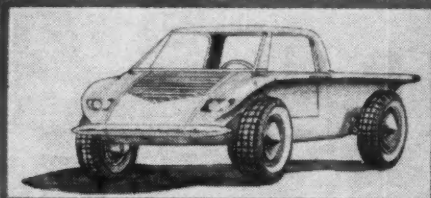
PROJECT IDEAS



Not shown here is the Apprentice Class winner—a Revell jalopy kit model entered by 11-year-old Kenneth Gilmour of Van Nuys, Calif. Sectioned and lowered from the original design, Kenny's gold-painted jalopy exemplifies the neatness and skill that many readers—young and old alike—have put into their scale models.

(Above) Adding function to design has been the aim of many Project IDEAS contest entries. Bob Rayburn (15) of White Plains, N.Y. wins this month's Junior Designer award for his idea: making the dummy tire shell on the rear deck into a tool compartment. A lockable hinged lid provides easy accessibility to tools, other equipment that is needed in an emergency.

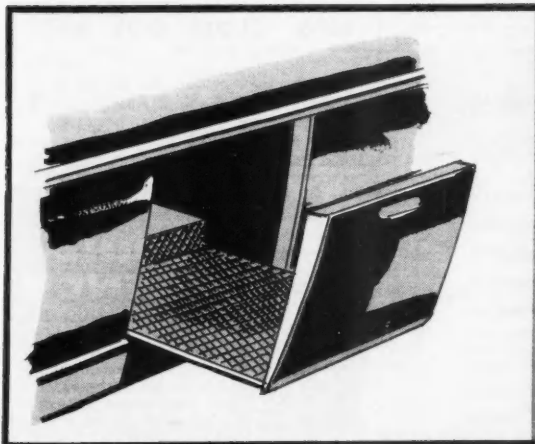
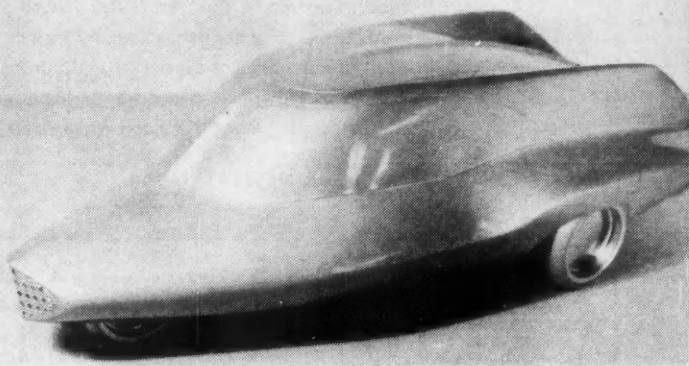
(Left) To combine the elegant lines of a coupe with the rear-seat room of a sedan, was the idea submitted by D. Grenier of Thetford-Mines, Quebec, Canada. In his design—worked out in a scale model—he has hinged the roof so that it can be raised. The fixed rear window drops into recess; removable side windows are of plexiglass. With roof up, headroom in rear is same as front—38 ins. With rear seat able to be positioned farther back, kneeroom in back is 24 ins. Grenier believes this design might be adapted to Ghia-VW, Renault Caravelle, BMW 700.



This "floating jeep" design wins Senior Class honors for Clark Lincoln, sophomore at Texas A & M College. A center-mounted, aircooled opposed six — similar to new Corvair engine —

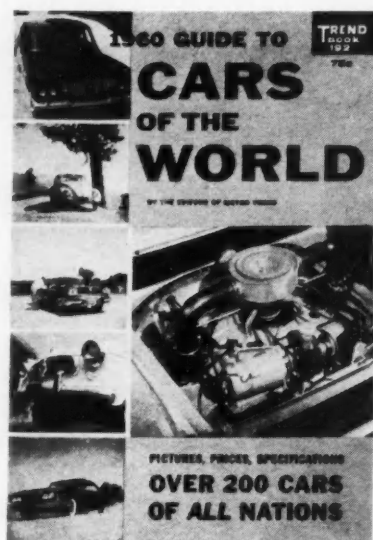
is coupled, through four-speed transmission, to right-angle axles, offering two- or four-wheel drive. Suspension is independent; tires are 10 x 25-in. to provide bite in dirt and mud.

The "Aerodyne" is what Jon C. Siddle of Los Angeles calls this "three-wheel, three-passenger automobile designed for long distance travel on automatic or non-automatic turnpikes, with speed ranging up to 150 mph." Driver sits in single forward seat for best vision. The gas turbine engine — weighing 200-300 lbs. — is rear mounted. Stability at high speeds is obtained by centering the components and passengers around the vehicle's center of gravity. Other specifications: wheelbase 100 in., rear wheel tread 60, overall length 172, overall width 76, overall height 48; the gross weight is about 3000 pounds.



As auto trunks became deeper, the far-forward areas became increasingly difficult to reach. One solution has been offered by Warren McCullough of Evansville, Ind., who proposes a pull-out luggage tray. This would increase luggage-carrying capacity, and provide access to the hard-to-get-at area behind the rear seat. Located one on each side of the car—in the rear quarter panel area—the trays could be on roller bearings for easy operation, would be lined for luggage protection.

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Ray Brown Automotive	74
Chevrolet	Cover 2
Citroen	9
Engine Accessories	74
European Motor Products, Inc.	73
Fadex Commercial Corp. (BMW 700)	77
Fadex Commercial Corp. (NSU Prinz)	21
Ford	11
The Gabriel Company	54
Gardner Reynolds Tires, Inc.	65
Glide Control Corporation	15
Grand Automotive Products	56
Gunk Laboratories, Inc.	74
Harley Davidson Motor Company	55
Hellwig Products Company	15
Honest Charley Speed Shop	60
Kraco Chemical Corporation	8
LaDawri Coachcraft	72
L&M Cigarettes	Cover 4
Lucas Electrical Services, Inc.	10
Mercedes-Benz	14
Midway Welder Company	64
Motor Book Department	6
Ernie McAfee Engineering	65
Namsco	74
National Schools	72
Newhouse Automotive Industries	56
New York Institute of Photography	74
Opel	4
Plymouth	7
Pontiac	19
Radiator Specialty Company (Liquid Wrench)	82
Radiator Specialty Company (Motor Medic)	73
Radio Shack Corporation	73
Ramcote Products	69
Raybestos	57
Rite Fit Company	82
Starbuck Engineering	60
Stewart Warner Corporation	69
Studebaker-Packard	Cover 3
Traction Master Company	66
The Triumph Corporation	54
Victress Manufacturing Company	64
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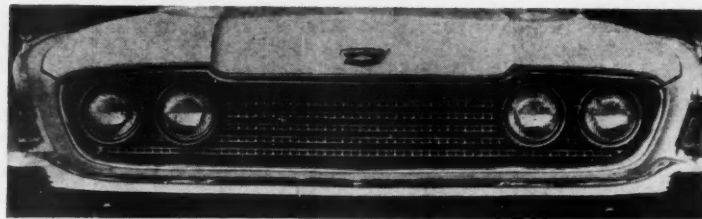
But how can I buy wholesale . . . I am not a dealer! True, many of these cars can be bought only through a licensed dealer so we have arranged for a licensed dealer to buy them for you. You will be given a registered number and card which will be submitted each time you wish to make a purchase . . . it's as simple as that.

What type of cars will I be able to buy wholesale? Practically every make and model . . . NEW and USED . . . American and Foreign . . . New cars ordered to your specifications . . . Used cars from the 1950 models through the 1958's . . . sedans, hardtops, wagons, convertibles, trucks, even cars from overseas . . . direct to you.

Where do these cars come from? The giant auto wholesalers who sell large volumes of cars to the used car dealers . . . private company fleets who sell every one or two years . . . distressed new and used car dealers who must reduce inventory . . . car leasing agencies . . . car rental agencies who may sell a car after four months of use but usually after ten to twelve months. Federal, State, County and City agencies who dispose of cars by bid . . . fleet brokers.

What is wrong with these cars . . . they are so cheap! What at first may seem like a gimmick can be explained if you understand the sound business principle behind these prices. First of all, remember these are not retail prices, in fact many are below the average wholesale and are exceptional buys for the car dealer as well as for you. These cars are normally sold only to the car dealer for resale on his lot and if you didn't know how and where to buy direct you might end up buying one of these same cars from his lot and be paying him a profit instead of making one for yourself. The fact that you can buy some of these cars below their actual wholesale value is not because they are wrecked or damaged but because they are usually fleet cars and are sold under a different system than the buying and selling of single units.

As an example let us examine a typical situation where the fleet user is an insurance company who buys 300 cars each year. To begin with they buy from the dealer who gives them the lowest bid . . . these prices are usually \$25.00 to \$50.00 over the dealers wholesale. After the company has purchased these cars they set up a tax depreciation on each car which will allow them to sell this car at the end of one or two years for a very small sum compared to its current market value yet justify this loss or depreciation from a tax standpoint . . . this is the first explanation. When the company is ready to buy another fleet the dealer who sells the new cars is rarely in a financial position or willing to take 300 used cars in trade on a gross profit of \$25.00 a car. Therefore, the insurance company must dispose of their own cars and this is usually done through the giant middleman or fleet broker who will bid and buy the entire fleet. Since his success is dependent on buying and selling as fast as possible . . . so that he can release his working capital for future bids . . . he sells price . . . for he knows that this is the only way he can unload these cars fast enough . . . his outlook on the car market is how much can he make on his investment in how short a time . . . not what the market potential is for a single car. His formula is simple . . . he divides the total number of cars into total price he pays the insurance company and adds a profit suitable for his risk investment and this is the price all 300 cars will be sold for . . . a very democratic action since among these three hundred cars some may be driven 9000 miles while others may be driven 40,000. You see it will be possible for you to benefit tremendously from this system.



1960 2-DOOR HARDTOPS*

CHEV IMPALAS \$2135
PONTIAC CATALINAS . . . \$2262
OLDS HOLIDAYS \$2406
BUICK LE SABRES \$2375
FORD GALAXIES \$2135

**ALSO CORVAIRS, FALCONS, VALIANTS,
 FOREIGN CARS**

all other makes available at similar savings

(300) 1959 CHEVS \$795
**(500) 1957-58-59 FORDS, DODGES,
 PLYMOUTHS with New Tires \$285 up**
(150) 1958 STUDEBAKERS . . . \$295

Some have power steering and automatic transmissions. Some used less than 12 months. Sellers claim all in good mechanical condition and good bodies.

**1000'S MORE AVAILABLE AT SIMILAR PRICES. B. C. B. TELLS YOU
 WHERE. N. Y., CHICAGO, LOS ANGELES, MAJOR CITIES.**

JOIN NOW

AND BUY WHOLESALE

MEMBERSHIP INCLUDES

1. FULL YEAR'S SUBSCRIPTION TO BEST CAR BUYS (9 issues)
2. WHOLESALE PURCHASING SERVICE AND MEMBERSHIP CARD
3. WHOLESALE PRICING SERVICE FOR 1960 CARS (YEAR'S SUBSCRIPTION FOR AUTO BLUEBOOK)

*Take advantage of the bargaining power of the many thousands of Best Car Buys members. Buy your new car at fleet prices. Above prices are F.O.B. Factory prices are slightly higher in other cities. Financing available. Prices subject to change.

BEST CAR BUYS

1330 Broadway, Oakland 12, California
1960 Membership \$10.00

City _____ Zone _____ State _____

Name _____ Age _____

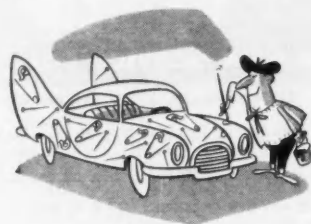
Address _____

Enclosed is my \$10.00 Membership Subscription Fee, dated _____

CUSTOM CAPERS

Why be like Joe Nextdoor? There's only one way to be different—be daring!

A Cartoon Feature by Bob Tupper



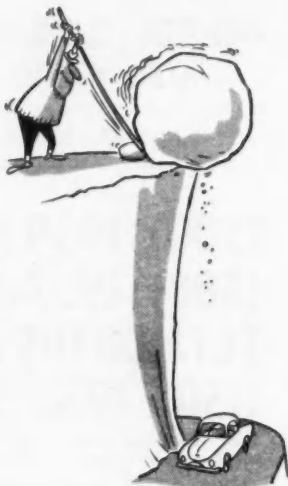
PIN STRIPING

Some very interesting effects can be obtained. This pattern, for instance, has a very sharp appearance.



ROLL BAR

Not nearly as safe as the conventional version . . . but if you'd like to draw "ahs" and "ahs," this is for you.



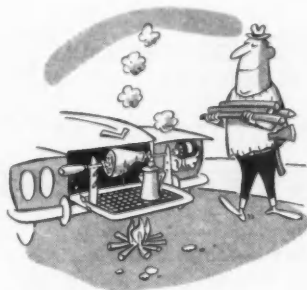
LOWERING

Guaranteed to lower anything from a Stanley Steamer to a Mack truck. Do before painting, so as not to mar finish.



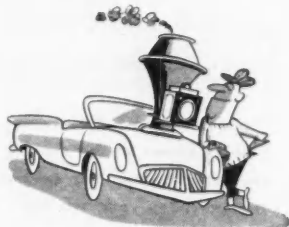
VENTING

For a quick, neat job, a steady hand and a fast gun are necessary for this method. A two-gun draw cuts time in half.



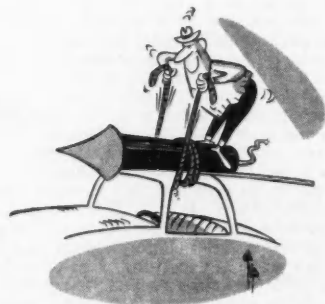
GRILLE

Don't overlook any possibilities where the grill(e) is concerned. This is just one suggestion . . . you may prefer hamburger.



EXHAUST SYSTEM

Can be decorative as well as useful. This particular design may be too far advanced for most, but it's on the right track.



SUPERCARGER

For that extra boost of power. Should be installed only on cars with good road-holding ability, or you may go into orbit.



WHAT A DIFFERENCE TWO CYLINDERS MAKE! THAT'S WHY YOU'LL LOVE THAT LARK V-8

In the field of domestic engines, two more cylinders make the difference between adequate transportation and spirited performance ➤ And sometimes performance is fun, particularly when the price is just a little more than the "6" ➤

The Lark V-8 in standard form pulls 180 hp at 4500 rpm and 260 ft. lb. of torque at 2800 rpm. With optional 4-barrel carburetor and dual exhausts, you get 195 hp at 4500 and 265 ft. lb. at 3000 so that drivers can turn zero to sixty in just over nine seconds ➤

Economical, too! In last year's Mobilgas Run, The Lark V-8 with automatic transmission topped all other eights ➤

The Lark V-8 is rugged. It runs on five massive main bearings and (here's the hooker), piston travel per mile in high gear (3.31 rear) is only 1380 feet. Engine revs per mile in high gear is an easy 2550 ➤

See your Studebaker Dealer and try The Lark V-8. You'll love it!

LOVE THAT **LARK** [➤] BY STUDEBAKER

L&M HAS DONE IT AGAIN!

L&M has
found the secret
that
**UNLOCKS
FLAVOR**
in a
filter
cigarette



BECAUSE L&M'S MIRACLE TIP IS SO ADVANCED...
FINE TOBACCOS CAN BE BLENDED NOT TO SUIT A FILTER...

BUT TO SUIT YOUR TASTE

